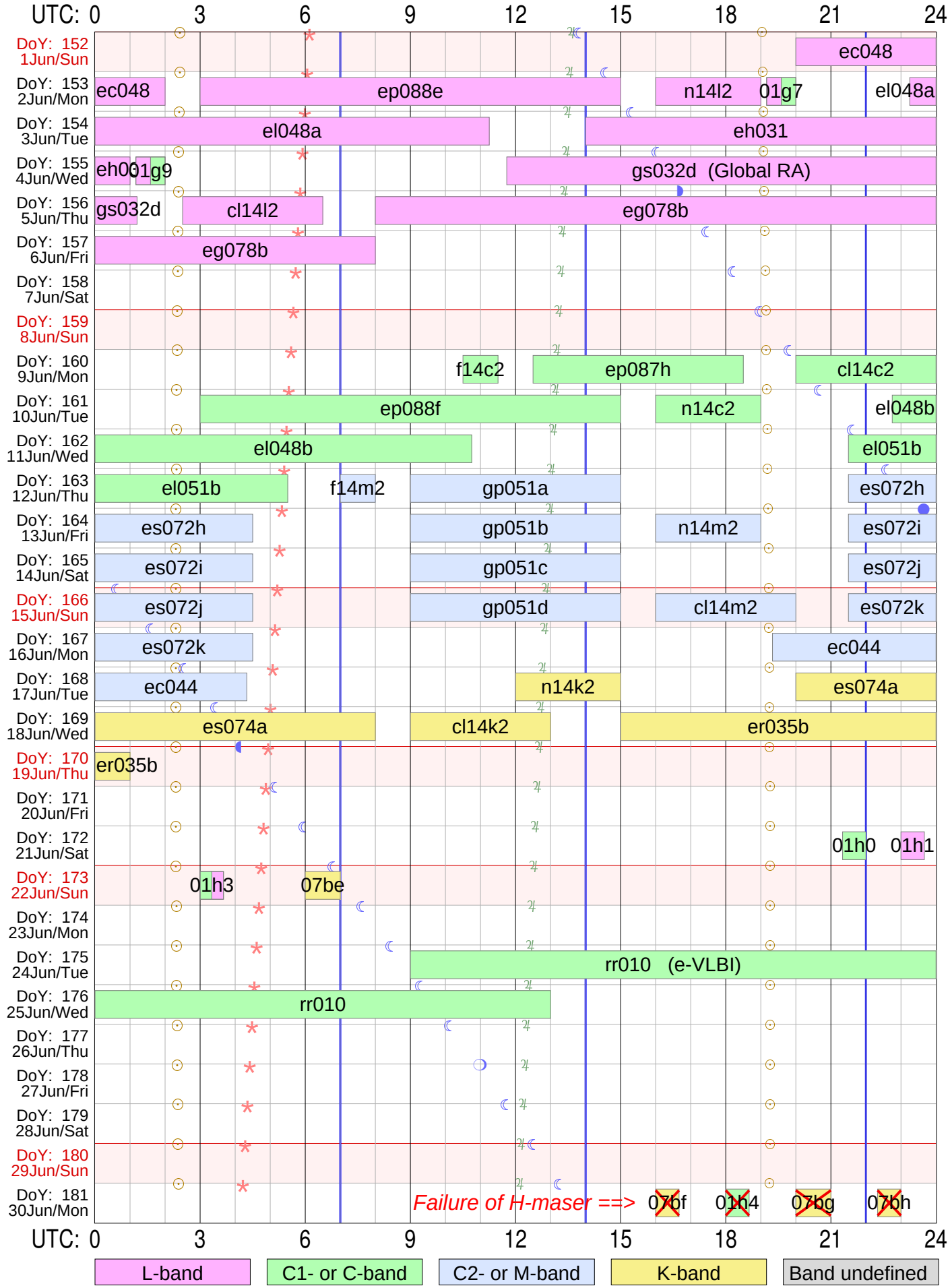
# Tr VLBI plan for Jun 2014



Strona zostawiona celowo pusta

# EVN and RadioAstron Experiments

# **June 2014**

Użytkownik i hasło ftp dla logów i schedulów RA: `grt K0&th%`
`ftp://webinet.asc.rssi.ru`
Przykład dla log files: `cd GRT_log_files/2013_08/2013_08_01_raks02aa`
Przykład dla sched files: `cd schedule/grtsched/RAKS/rk02aa`

| DoY | DoM | WD | UT_Start h | UT_Start m | UT_Stop h | UT_Stop m | Experiment name | Band | Uwagi |
|---|---|---|---|---|---|---|---|---|---|
| 152 | 1 | Nie | 20 | 00 | 24+02 | 00 | ec048 | L | |
| 153 | 2 | Pon | 3 | 00 | 15 | 00 | ep088e | L | |
| 153 | 2 | Pon | 16 | 00 | 19 | 00 | n14l2 | L | |
| 153 | 2 | Pon | 19 | 10 | 20 | 00 | rk01g7 | L->C | |
| 153 | 2 | Pon | 23 | 15 | 24+11 | 15 | el048a | L | |
| 154 | 3 | Wto | 14 | 00 | 24+01 | 00 | eh031 | L | |
| 155 | 4 | Sro | 1 | 10 | 2 | 00 | rk01g9 | L->C | |
| 155 | 4 | Sro | 11 | 45 | 24+01 | 12 | gs032d | L | Global RA |
| 156 | 5 | Czw | 2 | 30 | 6 | 30 | cl14l2 | L | |
| 156 | 5 | Czw | 8 | 00 | 24+08 | 00 | eg078b | L | |
| 160 | 9 | Pon | 10 | 30 | 11 | 30 | f14c2 | C | |
| 160 | 9 | Pon | 12 | 30 | 18 | 30 | ep087h | C | |
| 160 | 9 | Pon | 20 | 00 | 24 | 00 | cl14c2 | C | |
| 161 | 10 | Wto | 3 | 00 | 15 | 00 | ep088f | C | |
| 161 | 10 | Wto | 16 | 00 | 19 | 00 | n14c2 | C | |
| 161 | 10 | Wto | 22 | 45 | 24+10 | 45 | el048b | C | |
| 162 | 11 | Sro | 21 | 30 | 24+05 | 30 | el051b | C | |
| 163 | 12 | Czw | 7 | 00 | 8 | 00 | f14m2 | M | |
| 163 | 12 | Czw | 9 | 00 | 15 | 00 | gp051a | M | |
| 163 | 12 | Czw | 21 | 30 | 24+04 | 30 | es072h | M | |
| 164 | 13 | Pia | 9 | 00 | 15 | 00 | gp051b | M | |
| 164 | 13 | Pia | 16 | 00 | 19 | 00 | n14m2 | M | |
| 164 | 13 | Pia | 21 | 30 | 24+04 | 30 | es072i | M | |
| 165 | 14 | Sob | 9 | 00 | 15 | 00 | gp051c | M | |
| 165 | 14 | Sob | 21 | 30 | 24+04 | 30 | es072j | M | |
| 166 | 15 | Nie | 9 | 00 | 15 | 00 | gp051d | M | |
| 166 | 15 | Nie | 16 | 00 | 20 | 00 | cl14m2 | M | |
| 166 | 15 | Nie | 21 | 30 | 24+04 | 30 | es072k | M | |
| 167 | 16 | Pon | 19 | 20 | 24+04 | 20 | ec044 | M | |
| 168 | 17 | Wto | 12 | 00 | 15 | 00 | n14k2 | K | |
| 168 | 17 | Wto | 20 | 00 | 24+08 | 00 | es074a | K | |
| 169 | 18 | Sro | 9 | 00 | 13 | 00 | cl14k2 | K | |
| 169 | 18 | Sro | 15 | 00 | 24+01 | 00 | er035b | K | |
| 172 | 21 | Sob | 21 | 20 | 22 | 00 | rk01h0 | C | |
| 172 | 21 | Sob | 23 | 00 | 23 | 40 | rk01h1 | L | |
| 173 | 22 | Nie | 3 | 00 | 3 | 40 | rk01h3 | C->L | |
| 173 | 22 | Nie | 6 | 00 | 7 | 00 | rk07be | K | |
| 170 | 24 | Czw | 9 | 00 | 24+13 | 00 | rr010 | C | e-VLBI (EVN) |
| 181 | 30 | Pon | 16 | 00 | 16 | 40 | rk07bf | K | |
| 181 | 30 | Pon | 18 | 00 | 18 | 40 | rk01h4 | C | |
| 181 | 30 | Pon | 20 | 00 | 21 | 00 | rk07bg | K | |
| 181 | 30 | Pon | 22 | 20 | 23 | 00 | rk07bh | K | |
| | | | | | Razem | | 42 eksperymenty (RA i EVN) | | |

Uaktualniany plik pdf tego dokumentu jest dostępny w sieci pod adresem:

`http://cosmo.astro.umk.pl/foswiki/pub/Main/KazB/VLBI2014Jun.pdf`

# ec048tr

EVN obs of a RL NLSy1

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Observing mode: 18 cm 1 Gb/s

Schedule for TORUN (Code Tr ) Page 2
EVN obs of a RL NLSy1
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 1 Jun 2014 Day 152 --- | | | | | | | | | | |
| Next scan frequencies: | | 1634.49 | 1634.49 | 1634.49 | 1634.49 | 1650.49 | 1650.49 | 1650.49 | 1650.49 | |
| | | 1666.49 | 1666.49 | 1666.49 | 1666.49 | 1682.49 | 1682.49 | 1682.49 | 1682.49 | |
| Next BBC frequencies: | | 665.51 | 665.51 | 665.51 | 665.51 | 649.51 | 649.51 | 649.51 | 649.51 | |
| | | 633.51 | 633.51 | 633.51 | 633.51 | 617.51 | 617.51 | 617.51 | 617.51 | |
| Next scan bandwidths: | | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | |
| | | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | |
| 20 00 00 | J1635+3808 | 13 55 09 | 58.7 | 102.3 | -2.7 | | -48.2 | 0 | 0 | 20 00 00 |
| 20 03 20 | --- | 13 58 29 | 59.2 | 103.1 | -2.6 | | -48.0 | 200 | 13 | 20 00 01 |
| 20 04 00 | J1432+3014 | 13 59 09 | 66.3 | 161.4 | -0.6 | | -12.8 | -93 | 13 | 20 04 00 |
| 20 07 30 | --- | 14 02 40 | 66.4 | 163.2 | -0.5 | | -11.6 | 117 | 26 | 20 04 01 |
| 20 08 10 | J1435+3012 | 14 03 20 | 66.3 | 162.1 | -0.5 | | -12.3 | 24 | 26 | 20 08 10 |
| 20 09 20 | --- | 14 04 30 | 66.3 | 162.7 | -0.5 | | -11.9 | 70 | 31 | 20 08 11 |
| 20 09 20 | J1432+3014 | 14 04 30 | 66.5 | 164.2 | -0.5 | | -10.9 | -16 | 31 | No stop |
| 20 17 05 | --- | 14 12 17 | 66.8 | 168.4 | -0.4 | | -8.1 | 449 | 61 | 20 09 21 |
| 20 17 45 | J1435+3012 | 14 12 57 | 66.7 | 167.2 | -0.4 | | -8.8 | 24 | 61 | 20 17 45 |
| 20 19 35 | --- | 14 14 47 | 66.7 | 168.2 | -0.4 | | -8.2 | 110 | 68 | 20 17 46 |
| 20 19 35 | J1432+3014 | 14 14 47 | 66.8 | 169.7 | -0.3 | | -7.1 | -16 | 68 | No stop |
| 20 27 20 | --- | 14 22 33 | 67.0 | 174.0 | -0.2 | | -4.2 | 449 | 97 | 20 19 36 |
| 20 28 00 | J1435+3012 | 14 23 13 | 66.9 | 172.8 | -0.2 | | -5.0 | 24 | 97 | 20 28 00 |
| 20 29 50 | --- | 14 25 04 | 67.0 | 173.8 | -0.2 | | -4.3 | 110 | 104 | 20 28 01 |
| 20 29 50 | J1432+3014 | 14 25 04 | 67.0 | 175.4 | -0.1 | | -3.2 | -17 | 104 | No stop |
| 20 37 35 | --- | 14 32 50 | 67.1 | 179.7 | -0.0 | | -0.2 | 448 | 134 | 20 29 51 |
| 20 38 15 | J1435+3012 | 14 33 30 | 67.0 | 178.5 | -0.0 | | -1.1 | 24 | 134 | 20 38 15 |
| 20 40 05 | --- | 14 35 20 | 67.1 | 179.5 | -0.0 | | -0.3 | 110 | 141 | 20 38 16 |
| 20 41 25 | J1635+3808 | 14 36 41 | 64.6 | 114.2 | -2.0 | | -44.1 | -65 | 141 | 20 41 25 |
| 20 43 25 | --- | 14 38 41 | 64.9 | 114.9 | -2.0 | | -43.8 | 55 | 149 | 20 41 26 |

Schedule for TORUN (Code Tr ) Page 3

EVN obs of a RL NLSy1

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 1 Jun 2014 Day 152 --- | | | | | | | | | | |
| 20 43 25 | J1432+3014 | 14 38 41 | 67.1 | 182.9 | 0.1 | | 2.0 | -154 | 149 | No stop |
| 20 51 10 | --- | 14 46 27 | 67.0 | 187.2 | 0.2 | | 5.0 | 311 | 179 | 20 43 26 |
| 20 51 50 | J1435+3012 | 14 47 07 | 67.0 | 186.0 | 0.2 | | 4.2 | 24 | 179 | 20 51 50 |
| 20 53 40 | --- | 14 48 58 | 66.9 | 187.0 | 0.2 | | 4.9 | 110 | 186 | 20 51 51 |
| 20 53 40 | J1432+3014 | 14 48 58 | 66.9 | 188.6 | 0.3 | | 6.0 | -17 | 186 | No stop |
| 21 01 25 | --- | 14 56 44 | 66.7 | 192.8 | 0.4 | | 8.9 | 448 | 216 | 20 53 41 |
| 21 02 05 | J1435+3012 | 14 57 24 | 66.7 | 191.6 | 0.4 | | 8.1 | 24 | 216 | 21 02 05 |
| 21 03 55 | --- | 14 59 14 | 66.7 | 192.6 | 0.4 | | 8.7 | 110 | 223 | 21 02 06 |
| 21 03 55 | J1432+3014 | 14 59 14 | 66.6 | 194.2 | 0.4 | | 9.8 | -16 | 223 | No stop |
| 21 11 40 | --- | 15 07 01 | 66.3 | 198.3 | 0.6 | | 12.6 | 449 | 253 | 21 03 56 |
| 21 12 20 | J1435+3012 | 15 07 41 | 66.3 | 197.1 | 0.5 | | 11.8 | 24 | 253 | 21 12 20 |
| 21 14 10 | --- | 15 09 31 | 66.3 | 198.1 | 0.6 | | 12.5 | 110 | 260 | 21 12 21 |
| 21 14 10 | J1432+3014 | 15 09 31 | 66.2 | 199.6 | 0.6 | | 13.5 | -16 | 260 | No stop |
| 21 21 55 | --- | 15 17 17 | 65.7 | 203.6 | 0.7 | | 16.1 | 449 | 289 | 21 14 11 |
| 21 22 35 | J1435+3012 | 15 17 57 | 65.8 | 202.5 | 0.7 | | 15.4 | 24 | 289 | 21 22 35 |
| 21 24 25 | --- | 15 19 48 | 65.7 | 203.4 | 0.7 | | 16.0 | 110 | 296 | 21 22 36 |
| 21 24 25 | J1432+3014 | 15 19 48 | 65.6 | 204.9 | 0.8 | | 17.0 | -16 | 296 | No stop |
| 21 32 10 | --- | 15 27 34 | 65.0 | 208.7 | 0.9 | | 19.5 | 449 | 326 | 21 24 26 |
| 21 32 50 | J1435+3012 | 15 28 14 | 65.2 | 207.6 | 0.9 | | 18.8 | 25 | 326 | 21 32 50 |
| 21 34 40 | --- | 15 30 04 | 65.0 | 208.5 | 0.9 | | 19.3 | 110 | 333 | 21 32 51 |
| 21 34 40 | J1432+3014 | 15 30 04 | 64.9 | 209.9 | 0.9 | | 20.2 | -16 | 333 | No stop |
| 21 42 25 | --- | 15 37 51 | 64.3 | 213.5 | 1.1 | | 22.6 | 449 | 363 | 21 34 41 |
| 21 43 05 | J1435+3012 | 15 38 31 | 64.4 | 212.5 | 1.0 | | 21.9 | 25 | 363 | 21 43 05 |
| 21 44 55 | --- | 15 40 21 | 64.2 | 213.3 | 1.1 | | 22.4 | 110 | 370 | 21 43 06 |
| 21 44 55 | J1432+3014 | 15 40 21 | 64.0 | 214.7 | 1.1 | | 23.3 | -16 | 370 | No stop |
| 21 52 40 | --- | 15 48 07 | 63.3 | 218.1 | 1.2 | | 25.4 | 449 | 400 | 21 44 56 |
| 21 53 20 | J1435+3012 | 15 48 47 | 63.5 | 217.1 | 1.2 | | 24.8 | 25 | 400 | 21 53 20 |
| 21 55 10 | --- | 15 50 38 | 63.3 | 217.9 | 1.2 | | 25.3 | 110 | 407 | 21 53 21 |
| 21 55 10 | J1432+3014 | 15 50 38 | 63.1 | 219.2 | 1.3 | | 26.0 | -15 | 407 | No stop |
| 22 02 55 | --- | 15 58 24 | 62.3 | 222.5 | 1.4 | | 28.0 | 450 | 437 | 21 55 11 |
| 22 03 35 | J1435+3012 | 15 59 04 | 62.5 | 221.5 | 1.4 | | 27.4 | 25 | 437 | 22 03 35 |
| 22 05 25 | --- | 16 00 54 | 62.4 | 222.3 | 1.4 | | 27.9 | 110 | 444 | 22 03 36 |

Schedule for TORUN (Code Tr ) Page 4

EVN obs of a RL NLSy1

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
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Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 1 Jun 2014 Day 152 --- | | | | | | | | | | |
| 22 05 25 | J1432+3014 | 16 00 54 | 62.1 | 223.5 | 1.5 | | 28.6 | -15 | 444 | No stop |
| 22 13 10 | --- | 16 08 41 | 61.3 | 226.6 | 1.6 | | 30.3 | 450 | 474 | 22 05 26 |
| 22 13 50 | J1435+3012 | 16 09 21 | 61.5 | 225.7 | 1.6 | | 29.8 | 26 | 474 | 22 13 50 |
| 22 15 40 | --- | 16 11 11 | 61.3 | 226.4 | 1.6 | | 30.2 | 110 | 481 | 22 13 51 |
| 22 15 40 | J1432+3014 | 16 11 11 | 61.0 | 227.5 | 1.6 | | 30.8 | -15 | 481 | No stop |
| 22 23 25 | --- | 16 18 57 | 60.1 | 230.4 | 1.8 | | 32.4 | 450 | 511 | 22 15 41 |
| 22 24 05 | J1435+3012 | 16 19 37 | 60.3 | 229.6 | 1.7 | | 31.9 | 26 | 511 | 22 24 05 |
| 22 25 55 | --- | 16 21 28 | 60.1 | 230.3 | 1.8 | | 32.3 | 110 | 518 | 22 24 06 |
| 22 25 55 | J1432+3014 | 16 21 28 | 59.8 | 231.4 | 1.8 | | 32.9 | -14 | 518 | No stop |
| 22 33 40 | --- | 16 29 14 | 58.9 | 234.1 | 1.9 | | 34.2 | 451 | 547 | 22 25 56 |
| 22 34 20 | J1435+3012 | 16 29 54 | 59.1 | 233.3 | 1.9 | | 33.8 | 26 | 547 | 22 34 20 |
| 22 36 10 | --- | 16 31 44 | 58.9 | 234.0 | 1.9 | | 34.2 | 110 | 554 | 22 34 21 |
| 22 36 10 | J1432+3014 | 16 31 44 | 58.6 | 235.0 | 2.0 | | 34.7 | -14 | 554 | No stop |
| 22 43 55 | --- | 16 39 31 | 57.6 | 237.6 | 2.1 | | 35.9 | 451 | 584 | 22 36 11 |
| 22 44 35 | J1435+3012 | 16 40 11 | 57.9 | 236.8 | 2.1 | | 35.5 | 26 | 584 | 22 44 35 |
| 22 46 25 | --- | 16 42 01 | 57.6 | 237.4 | 2.1 | | 35.8 | 110 | 591 | 22 44 36 |
| 22 50 10 | J1635+3808 | 16 45 47 | 74.9 | 187.6 | 0.2 | | 5.8 | 107 | 591 | 22 50 10 |
| 22 52 10 | --- | 16 47 47 | 74.9 | 189.1 | 0.2 | | 6.9 | 120 | 599 | 22 50 11 |
| 22 52 10 | J1432+3014 | 16 47 47 | 56.6 | 240.2 | 2.2 | | 37.1 | -118 | 599 | No stop |
| 22 59 55 | --- | 16 55 33 | 55.5 | 242.6 | 2.4 | | 38.1 | 347 | 629 | 22 52 11 |
| 23 00 35 | J1435+3012 | 16 56 13 | 55.8 | 241.9 | 2.3 | | 37.8 | 27 | 629 | 23 00 35 |
| 23 02 25 | --- | 16 58 04 | 55.5 | 242.5 | 2.4 | | 38.0 | 110 | 636 | 23 00 36 |
| 23 02 25 | J1432+3014 | 16 58 04 | 55.2 | 243.3 | 2.4 | | 38.4 | -14 | 636 | No stop |
| 23 10 10 | --- | 17 05 50 | 54.1 | 245.6 | 2.5 | | 39.2 | 451 | 666 | 23 02 26 |
| 23 10 50 | J1435+3012 | 17 06 30 | 54.4 | 244.9 | 2.5 | | 39.0 | 27 | 666 | 23 10 50 |
| 23 12 40 | --- | 17 08 20 | 54.2 | 245.5 | 2.5 | | 39.2 | 110 | 673 | 23 10 51 |
| 23 12 40 | J1432+3014 | 17 08 20 | 53.8 | 246.3 | 2.6 | | 39.5 | -13 | 673 | No stop |
| 23 20 25 | --- | 17 16 07 | 52.7 | 248.5 | 2.7 | | 40.3 | 452 | 703 | 23 12 41 |
| 23 21 05 | J1435+3012 | 17 16 47 | 53.0 | 247.8 | 2.7 | | 40.0 | 27 | 703 | 23 21 05 |
| 23 22 55 | --- | 17 18 37 | 52.7 | 248.3 | 2.7 | | 40.2 | 110 | 710 | 23 21 06 |
| 23 22 55 | J1432+3014 | 17 18 37 | 52.4 | 249.1 | 2.8 | | 40.5 | -13 | 710 | No stop |
| 23 30 40 | --- | 17 26 23 | 51.3 | 251.2 | 2.9 | | 41.1 | 452 | 739 | 23 22 56 |

Schedule for TORUN (Code Tr ) Page 5

EVN obs of a RL NLSy1

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 1 Jun 2014 Day 152 --- | | | | | | | | | | |
| 23 31 20 | J1435+3012 | 17 27 04 | 51.6 | 250.6 | 2.8 | | 40.9 | 27 | 739 | 23 31 20 |
| 23 33 10 | --- | 17 28 54 | 51.3 | 251.1 | 2.9 | | 41.1 | 110 | 746 | 23 31 21 |
| 23 33 10 | J1432+3014 | 17 28 54 | 50.9 | 251.9 | 2.9 | | 41.3 | -13 | 746 | No stop |
| 23 40 55 | --- | 17 36 40 | 49.8 | 253.8 | 3.1 | | 41.8 | 452 | 776 | 23 33 11 |
| 23 41 35 | J1435+3012 | 17 37 20 | 50.1 | 253.2 | 3.0 | | 41.7 | 27 | 776 | 23 41 35 |
| 23 43 25 | --- | 17 39 10 | 49.8 | 253.7 | 3.0 | | 41.8 | 110 | 783 | 23 41 36 |
| 23 43 25 | J1432+3014 | 17 39 10 | 49.4 | 254.4 | 3.1 | | 42.0 | -13 | 783 | No stop |
| 23 51 10 | --- | 17 46 57 | 48.3 | 256.3 | 3.2 | | 42.5 | 452 | 813 | 23 43 26 |
| 23 51 50 | J1435+3012 | 17 47 37 | 48.6 | 255.8 | 3.2 | | 42.3 | 28 | 813 | 23 51 50 |
| 23 53 40 | --- | 17 49 27 | 48.3 | 256.2 | 3.2 | | 42.4 | 110 | 820 | 23 51 51 |
| --- Start: Sun 1 Jun 2014 Day 152 -- Stop: Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 23 53 40 | J1432+3014 | 17 49 27 | 47.9 | 256.9 | 3.3 | | 42.6 | -13 | 820 | No stop |
| 00 01 25 | --- | 17 57 13 | 46.8 | 258.8 | 3.4 | | 42.9 | 452 | 850 | 23 53 41 |
| 00 02 05 | J1435+3012 | 17 57 54 | 47.1 | 258.2 | 3.4 | | 42.8 | 28 | 850 | 00 02 05 |
| 00 03 55 | --- | 17 59 44 | 46.8 | 258.6 | 3.4 | | 42.9 | 110 | 857 | 00 02 06 |
| 00 03 55 | J1432+3014 | 17 59 44 | 46.4 | 259.3 | 3.4 | | 43.1 | -13 | 857 | No stop |
| 00 11 40 | --- | 18 07 30 | 45.3 | 261.1 | 3.6 | | 43.3 | 452 | 887 | 00 03 56 |
| 00 12 20 | J1435+3012 | 18 08 10 | 45.6 | 260.6 | 3.5 | | 43.2 | 28 | 887 | 00 12 20 |
| 00 14 10 | --- | 18 10 01 | 45.3 | 261.0 | 3.6 | | 43.3 | 110 | 894 | 00 12 21 |
| 00 14 10 | J1432+3014 | 18 10 01 | 44.9 | 261.6 | 3.6 | | 43.4 | -12 | 894 | No stop |
| 00 21 55 | --- | 18 17 47 | 43.8 | 263.3 | 3.7 | | 43.6 | 453 | 924 | 00 14 11 |
| 00 22 35 | J1435+3012 | 18 18 27 | 44.1 | 262.8 | 3.7 | | 43.6 | 28 | 924 | 00 22 35 |
| 00 24 25 | --- | 18 20 17 | 43.8 | 263.2 | 3.7 | | 43.6 | 110 | 931 | 00 22 36 |
| 00 24 25 | J1432+3014 | 18 20 17 | 43.4 | 263.9 | 3.8 | | 43.7 | -12 | 931 | No stop |
| 00 32 10 | --- | 18 28 03 | 42.2 | 265.5 | 3.9 | | 43.8 | 453 | 961 | 00 24 26 |
| 00 32 50 | J1435+3012 | 18 28 44 | 42.5 | 265.0 | 3.9 | | 43.8 | 28 | 961 | 00 32 50 |
| 00 34 40 | --- | 18 30 34 | 42.2 | 265.4 | 3.9 | | 43.8 | 110 | 968 | 00 32 51 |
| 00 34 40 | J1432+3014 | 18 30 34 | 41.8 | 266.1 | 4.0 | | 43.9 | -12 | 968 | No stop |
| 00 42 25 | --- | 18 38 20 | 40.7 | 267.7 | 4.1 | | 44.0 | 453 | 997 | 00 34 41 |
| 00 43 05 | J1435+3012 | 18 39 00 | 41.0 | 267.2 | 4.0 | | 43.9 | 28 | 997 | 00 43 05 |
| 00 44 55 | --- | 18 40 51 | 40.7 | 267.6 | 4.1 | | 43.9 | 110 | 1004 | 00 43 06 |

Schedule for TORUN (Code Tr ) Page 6

EVN obs of a RL NLSy1

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 00 44 55 | J1432+3014 | 18 40 51 | 40.3 | 268.2 | 4.1 | | 44.0 | -12 | 1004 | No stop |
| 00 52 40 | --- | 18 48 37 | 39.1 | 269.8 | 4.3 | | 44.0 | 453 | 1034 | 00 44 56 |
| 00 53 20 | J1435+3012 | 18 49 17 | 39.4 | 269.3 | 4.2 | | 44.0 | 28 | 1034 | 00 53 20 |
| 00 55 10 | --- | 18 51 07 | 39.2 | 269.7 | 4.2 | | 44.0 | 110 | 1041 | 00 53 21 |
| 00 56 30 | J1635+3808 | 18 52 27 | 62.2 | 251.2 | 2.3 | | 46.3 | -20 | 1041 | 00 56 30 |
| 00 58 30 | --- | 18 54 28 | 61.9 | 251.8 | 2.3 | | 46.5 | 100 | 1049 | 00 56 31 |
| 00 58 30 | J1432+3014 | 18 54 28 | 38.3 | 270.9 | 4.4 | | 44.0 | -103 | 1049 | No stop |
| 01 06 15 | --- | 19 02 14 | 37.1 | 272.5 | 4.5 | | 43.9 | 362 | 1079 | 00 58 31 |
| 01 06 55 | J1435+3012 | 19 02 54 | 37.4 | 272.0 | 4.4 | | 43.9 | 28 | 1079 | 01 06 55 |
| 01 08 45 | --- | 19 04 45 | 37.1 | 272.4 | 4.5 | | 43.9 | 110 | 1086 | 01 06 56 |
| 01 08 45 | J1432+3014 | 19 04 45 | 36.7 | 272.9 | 4.5 | | 43.9 | -12 | 1086 | No stop |
| 01 16 30 | --- | 19 12 31 | 35.6 | 274.4 | 4.7 | | 43.8 | 453 | 1116 | 01 08 46 |
| 01 17 10 | J1435+3012 | 19 13 11 | 35.9 | 274.0 | 4.6 | | 43.8 | 28 | 1116 | 01 17 10 |
| 01 19 00 | --- | 19 15 01 | 35.6 | 274.3 | 4.6 | | 43.8 | 110 | 1123 | 01 17 11 |
| 01 19 00 | J1432+3014 | 19 15 01 | 35.2 | 274.9 | 4.7 | | 43.8 | -12 | 1123 | No stop |
| 01 26 45 | --- | 19 22 47 | 34.0 | 276.4 | 4.8 | | 43.7 | 453 | 1153 | 01 19 01 |
| 01 27 25 | J1435+3012 | 19 23 28 | 34.3 | 276.0 | 4.8 | | 43.7 | 28 | 1153 | 01 27 25 |
| 01 29 15 | --- | 19 25 18 | 34.0 | 276.3 | 4.8 | | 43.6 | 110 | 1160 | 01 27 26 |
| 01 29 15 | J1432+3014 | 19 25 18 | 33.6 | 276.9 | 4.9 | | 43.6 | -12 | 1160 | No stop |
| 01 37 00 | --- | 19 33 04 | 32.5 | 278.3 | 5.0 | | 43.4 | 453 | 1189 | 01 29 16 |
| 01 37 40 | J1435+3012 | 19 33 44 | 32.8 | 277.9 | 5.0 | | 43.5 | 28 | 1189 | 01 37 40 |
| 01 39 30 | --- | 19 35 35 | 32.5 | 278.2 | 5.0 | | 43.4 | 110 | 1196 | 01 37 41 |
| 01 39 30 | J1432+3014 | 19 35 35 | 32.1 | 278.8 | 5.0 | | 43.4 | -12 | 1196 | No stop |
| 01 47 15 | --- | 19 43 21 | 31.0 | 280.2 | 5.2 | | 43.1 | 453 | 1226 | 01 39 31 |
| 01 47 55 | J1435+3012 | 19 44 01 | 31.3 | 279.8 | 5.1 | | 43.2 | 28 | 1226 | 01 47 55 |
| 01 49 45 | --- | 19 45 51 | 31.0 | 280.1 | 5.2 | | 43.1 | 110 | 1233 | 01 47 56 |
| 01 49 45 | J1432+3014 | 19 45 51 | 30.6 | 280.7 | 5.2 | | 43.0 | -12 | 1233 | No stop |
| 01 57 30 | --- | 19 53 38 | 29.4 | 282.1 | 5.3 | | 42.8 | 453 | 1263 | 01 49 46 |
| 01 58 10 | J1435+3012 | 19 54 18 | 29.7 | 281.7 | 5.3 | | 42.8 | 28 | 1263 | 01 58 10 |
| 02 00 00 | --- | 19 56 08 | 29.5 | 282.0 | 5.3 | | 42.8 | 110 | 1270 | 01 58 11 |

```
SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess214.L512
 --- WARNING ---  This group does not match an entry in the frequency catalog.
                  This might be ok because the catalog is not complete.
                  But be very careful to be sure that the setup is correct.

   Setup group:   10         Station: TORUN            Total bit rate:   512
   Format: MARK5B            Bits per sample: 2        Sample rate: 16.000
   Number of channels: 16    DBE type:                 Speedup factor:   1.00

   Disk used to record data.

   1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
             2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
   Net SB=         L         L         U         U         L         L         U         U
                   L         L         U         U         L         L         U         U
   IF SB =         L         L         L         L         L         L         L         L
                   L         L         L         L         L         L         L         L
   Pol.  =      RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
   BBC   =         1         5         1         5         2         6         2         6
                   3         7         3         7         4         8         4         8
   BBC SB=         U         U         L         L         U         U         L         L
                   U         U         L         L         U         U         L         L
   IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                  A1        B1        A1        B1        A1        B1        A1        B1

  The following frequency sets based on these setups were used.

   Frequency Set:   4  Setup file default.  Used with PCAL = off
   LO sum=   1634.49  1634.49  1634.49  1634.49  1650.49  1650.49  1650.49  1650.49
             1666.49  1666.49  1666.49  1666.49  1682.49  1682.49  1682.49  1682.49
   BBC fr=    665.51   665.51   665.51   665.51   649.51   649.51   649.51   649.51
              633.51   633.51   633.51   633.51   617.51   617.51   617.51   617.51
   Bandwd=      8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
                8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
    Matching frequency sets:   4

   Track assignments are:
    track1=   2,  4,  6,  8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
    barrel=roll_off



 POSITIONS OF SOURCES USED IN RECORDING SCANS

   Source                        Source position (RA/Dec)                        Error
                        (B1950)             (J2000)             (Date)            (mas)

 * J1635+3808        16 33 30.625098   * 16 35 15.492973     16 35 47.550732       0.00
                     38 14 10.08283    * 38 08 04.50060      38 06 26.21909        0.00

 * J1435+3012        14 33 26.011130   * 14 35 35.402200     14 36 14.081566       0.00
                     30 25 27.22432    * 30 12 24.52100      30 08 46.47955        0.00

 * J1432+3014        14 30 35.181638   * 14 32 44.917000     14 33 23.682585       0.00
                     30 27 45.91561    * 30 14 35.51000      30 10 55.23706        0.00
```

# ep088etr

## LIRGI - Source group 1 - Run d

PI: *Miguel A. Perez-Torres*

Address: IAA - CSIC Glorieta de la Astronomia s/n 18008 Granada, Spain
Phone: +34-958230644 EMAIL: torres@iaa.es
Fax: +34-958814530 Phone during observation: +34-665252538

Observing mode: 1024 Mbps

Notes: Re-obs of first 18cm observing epoch of NGC0695, VV250a, UGC08058, IRASF17132, NGC6670b and NGC7674

Schedule for TORUN (Code Tr ) Page 2
LIRGI - Source group 1 - Run d
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | |
| Next scan frequencies: | 1610.49 1610.49 1610.49 1610.49 1642.49 1642.49 1642.49 1642.49 | | | | | | | | |
| | 1674.49 1674.49 1674.49 1674.49 1706.49 1706.49 1706.49 1706.49 | | | | | | | | |
| Next BBC frequencies: | 689.51 689.51 689.51 689.51 657.51 657.51 657.51 657.51 | | | | | | | | |
| | 625.51 625.51 625.51 625.51 593.51 593.51 593.51 593.51 | | | | | | | | |
| Next scan bandwidths: | 16.00 16.00 16.00 16.00 16.00 16.00 16.00 16.00 | | | | | | | | |
| | 16.00 16.00 16.00 16.00 16.00 16.00 16.00 16.00 | | | | | | | | |
| 03 00 00 3C454.3 | 20 56 18 | 46.4 | 136.5 | -2.0 | | -25.5 | 0 | 0 | 03 00 00 |
| 03 03 34 --- | 20 59 52 | 46.8 | 137.6 | -1.9 | | -24.9 | 214 | 27 | 03 00 01 |
| 03 03 34 3C454.3 | 20 59 52 | 46.8 | 137.6 | -1.9 | | -24.9 | -5 | 27 | No stop |
| 03 07 12 --- | 21 03 31 | 47.2 | 138.8 | -1.9 | | -24.3 | 213 | 55 | 03 03 35 |
| 03 07 12 J1740+5211 | 21 03 31 | 59.9 | 289.0 | 3.4 | | 67.8 | -317 | 55 | No stop |
| 03 14 52 --- | 21 11 12 | 58.8 | 289.9 | 3.5 | | 67.1 | 143 | 114 | 03 07 13 |
| 03 15 32 IRASF17132 | 21 11 52 | 55.5 | 294.6 | 4.0 | | 65.6 | 14 | 114 | 03 15 32 |
| 03 20 32 --- | 21 16 53 | 54.8 | 295.1 | 4.0 | | 65.1 | 300 | 153 | 03 15 33 |
| 03 20 32 J1740+5211 | 21 16 53 | 58.0 | 290.6 | 3.6 | | 66.5 | -26 | 153 | No stop |
| 03 21 42 --- | 21 18 03 | 57.9 | 290.7 | 3.6 | | 66.4 | 44 | 162 | 03 20 33 |
| 03 22 22 IRASF17132 | 21 18 43 | 54.5 | 295.3 | 4.1 | | 64.9 | 14 | 162 | 03 22 22 |
| 03 27 22 --- | 21 23 44 | 53.9 | 295.9 | 4.2 | | 64.3 | 300 | 200 | 03 22 23 |
| 03 27 22 J1740+5211 | 21 23 44 | 57.1 | 291.4 | 3.7 | | 65.8 | -26 | 200 | No stop |
| 03 28 32 --- | 21 24 54 | 56.9 | 291.5 | 3.7 | | 65.7 | 44 | 209 | 03 27 23 |
| 03 29 12 IRASF17132 | 21 25 35 | 53.6 | 296.1 | 4.2 | | 64.1 | 14 | 209 | 03 29 12 |
| 03 34 32 --- | 21 30 55 | 52.9 | 296.7 | 4.3 | | 63.5 | 320 | 250 | 03 29 13 |
| 03 34 32 J1740+5211 | 21 30 55 | 56.1 | 292.2 | 3.8 | | 65.1 | -26 | 250 | No stop |
| 03 35 42 --- | 21 32 06 | 55.9 | 292.3 | 3.9 | | 65.0 | 44 | 259 | 03 34 33 |

Schedule for TORUN (Code Tr ) Page 3

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 03 36 22 | IRASF17132 | 21 32 46 | 52.6 | 296.9 | 4.3 | | 63.3 | 14 | 259 | 03 36 22 |
| 03 41 42 | --- | 21 38 07 | 51.9 | 297.5 | 4.4 | | 62.7 | 320 | 300 | 03 36 23 |
| 03 41 42 | J1740+5211 | 21 38 07 | 55.1 | 293.0 | 4.0 | | 64.4 | -25 | 300 | No stop |
| 03 42 52 | --- | 21 39 17 | 54.9 | 293.2 | 4.0 | | 64.2 | 45 | 309 | 03 41 43 |
| 03 43 32 | IRASF17132 | 21 39 57 | 51.7 | 297.7 | 4.4 | | 62.5 | 14 | 309 | 03 43 32 |
| 03 48 52 | --- | 21 45 18 | 51.0 | 298.3 | 4.5 | | 61.9 | 320 | 350 | 03 43 33 |
| 03 48 52 | J1740+5211 | 21 45 18 | 54.1 | 293.9 | 4.1 | | 63.6 | -25 | 350 | No stop |
| 03 50 02 | --- | 21 46 28 | 53.9 | 294.0 | 4.1 | | 63.5 | 45 | 359 | 03 48 53 |
| 03 50 42 | IRASF17132 | 21 47 08 | 50.7 | 298.5 | 4.5 | | 61.7 | 14 | 359 | 03 50 42 |
| 03 56 02 | --- | 21 52 29 | 50.0 | 299.1 | 4.6 | | 61.1 | 320 | 400 | 03 50 43 |
| 03 56 02 | J1740+5211 | 21 52 29 | 53.1 | 294.7 | 4.2 | | 62.9 | -25 | 400 | No stop |
| 03 57 12 | --- | 21 53 39 | 52.9 | 294.8 | 4.2 | | 62.7 | 45 | 409 | 03 56 03 |
| 03 57 52 | IRASF17132 | 21 54 19 | 49.8 | 299.3 | 4.7 | | 60.9 | 14 | 409 | 03 57 52 |
| 04 03 12 | --- | 21 59 40 | 49.1 | 299.9 | 4.7 | | 60.3 | 320 | 450 | 03 57 53 |
| 04 03 12 | J1740+5211 | 21 59 40 | 52.1 | 295.5 | 4.3 | | 62.1 | -25 | 450 | No stop |
| 04 04 22 | --- | 22 00 50 | 52.0 | 295.7 | 4.3 | | 62.0 | 45 | 459 | 04 03 13 |
| 04 05 02 | IRASF17132 | 22 01 30 | 48.8 | 300.1 | 4.8 | | 60.0 | 15 | 459 | 04 05 02 |
| 04 10 22 | --- | 22 06 51 | 48.2 | 300.7 | 4.9 | | 59.4 | 320 | 500 | 04 05 03 |
| 04 10 22 | J1740+5211 | 22 06 51 | 51.1 | 296.4 | 4.4 | | 61.3 | -25 | 500 | No stop |
| 04 11 32 | --- | 22 08 02 | 51.0 | 296.5 | 4.5 | | 61.2 | 45 | 509 | 04 10 23 |
| 04 12 12 | IRASF17132 | 22 08 42 | 47.9 | 300.9 | 4.9 | | 59.2 | 15 | 509 | 04 12 12 |
| 04 17 32 | --- | 22 14 03 | 47.2 | 301.5 | 5.0 | | 58.6 | 320 | 550 | 04 12 13 |
| 04 17 32 | J1740+5211 | 22 14 03 | 50.2 | 297.2 | 4.6 | | 60.6 | -25 | 550 | No stop |
| 04 18 42 | --- | 22 15 13 | 50.0 | 297.4 | 4.6 | | 60.5 | 45 | 559 | 04 17 33 |
| 04 19 22 | IRASF17132 | 22 15 53 | 47.0 | 301.8 | 5.0 | | 58.4 | 15 | 559 | 04 19 22 |
| 04 24 42 | --- | 22 21 14 | 46.3 | 302.4 | 5.1 | | 57.8 | 320 | 600 | 04 19 23 |
| 04 24 42 | J1740+5211 | 22 21 14 | 49.2 | 298.1 | 4.7 | | 59.8 | -25 | 600 | No stop |
| 04 25 52 | --- | 22 22 24 | 49.1 | 298.2 | 4.7 | | 59.7 | 45 | 609 | 04 24 43 |
| 04 26 32 | IRASF17132 | 22 23 04 | 46.1 | 302.6 | 5.1 | | 57.6 | 15 | 609 | 04 26 32 |
| 04 31 52 | --- | 22 28 25 | 45.4 | 303.2 | 5.2 | | 56.9 | 320 | 650 | 04 26 33 |
| 04 31 52 | J1740+5211 | 22 28 25 | 48.3 | 298.9 | 4.8 | | 59.0 | -24 | 650 | No stop |
| 04 33 02 | --- | 22 29 35 | 48.1 | 299.1 | 4.8 | | 58.9 | 46 | 659 | 04 31 53 |

Schedule for TORUN (Code Tr ) Page 4

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 04 33 42 | IRASF17132 | 22 30 15 | 45.2 | 303.4 | 5.3 | | 56.7 | 15 | 659 | 04 33 42 |
| 04 39 02 | --- | 22 35 36 | 44.5 | 304.0 | 5.3 | | 56.1 | 320 | 700 | 04 33 43 |
| 04 39 02 | J1740+5211 | 22 35 36 | 47.3 | 299.8 | 4.9 | | 58.2 | -24 | 700 | No stop |
| 04 40 12 | --- | 22 36 46 | 47.2 | 299.9 | 4.9 | | 58.1 | 46 | 709 | 04 39 03 |
| 04 40 52 | IRASF17132 | 22 37 26 | 44.3 | 304.3 | 5.4 | | 55.9 | 15 | 709 | 04 40 52 |
| 04 46 12 | --- | 22 42 47 | 43.6 | 304.9 | 5.5 | | 55.2 | 320 | 750 | 04 40 53 |
| 04 46 12 | J1740+5211 | 22 42 47 | 46.4 | 300.6 | 5.0 | | 57.4 | -24 | 750 | No stop |
| 04 47 22 | --- | 22 43 57 | 46.3 | 300.8 | 5.0 | | 57.3 | 46 | 759 | 04 46 13 |
| 04 48 02 | IRASF17132 | 22 44 38 | 43.4 | 305.1 | 5.5 | | 55.0 | 16 | 759 | 04 48 02 |
| 04 53 22 | --- | 22 49 58 | 42.7 | 305.7 | 5.6 | | 54.4 | 320 | 800 | 04 48 03 |
| 04 53 22 | J1740+5211 | 22 49 58 | 45.5 | 301.5 | 5.1 | | 56.6 | -24 | 800 | No stop |
| 04 54 32 | --- | 22 51 09 | 45.3 | 301.6 | 5.2 | | 56.5 | 46 | 809 | 04 53 23 |
| 04 55 12 | IRASF17132 | 22 51 49 | 42.5 | 306.0 | 5.6 | | 54.2 | 16 | 809 | 04 55 12 |
| 05 00 32 | --- | 22 57 10 | 41.9 | 306.6 | 5.7 | | 53.5 | 320 | 850 | 04 55 13 |
| 05 00 32 | J1740+5211 | 22 57 10 | 44.6 | 302.4 | 5.3 | | 55.8 | -24 | 850 | No stop |
| 05 01 42 | --- | 22 58 20 | 44.4 | 302.5 | 5.3 | | 55.7 | 46 | 859 | 05 00 33 |
| 05 02 22 | IRASF17132 | 22 59 00 | 41.7 | 306.8 | 5.7 | | 53.3 | 16 | 859 | 05 02 22 |
| 05 07 42 | --- | 23 04 21 | 41.0 | 307.5 | 5.8 | | 52.7 | 320 | 900 | 05 02 23 |
| 05 07 42 | J1740+5211 | 23 04 21 | 43.7 | 303.2 | 5.4 | | 55.0 | -24 | 900 | No stop |
| 05 08 52 | --- | 23 05 31 | 43.5 | 303.4 | 5.4 | | 54.9 | 46 | 909 | 05 07 43 |
| 05 09 32 | IRASF17132 | 23 06 11 | 40.8 | 307.7 | 5.9 | | 52.4 | 16 | 909 | 05 09 32 |
| 05 14 52 | --- | 23 11 32 | 40.2 | 308.3 | 5.9 | | 51.8 | 320 | 950 | 05 09 33 |
| 05 14 52 | J1740+5211 | 23 11 32 | 42.8 | 304.1 | 5.5 | | 54.2 | -23 | 950 | No stop |
| 05 16 02 | --- | 23 12 42 | 42.6 | 304.2 | 5.5 | | 54.1 | 47 | 959 | 05 14 53 |
| 05 16 42 | IRASF17132 | 23 13 22 | 39.9 | 308.6 | 6.0 | | 51.6 | 16 | 959 | 05 16 42 |
| 05 22 02 | --- | 23 18 43 | 39.3 | 309.2 | 6.1 | | 50.9 | 320 | 1000 | 05 16 43 |
| 05 22 02 | J1740+5211 | 23 18 43 | 41.9 | 305.0 | 5.6 | | 53.4 | -23 | 1000 | No stop |
| 05 23 12 | --- | 23 19 53 | 41.7 | 305.1 | 5.6 | | 53.2 | 47 | 1009 | 05 22 03 |
| 05 23 12 | J1824+5651 | 23 19 53 | 49.5 | 306.0 | 4.9 | | 62.7 | -43 | 1009 | No stop |
| 05 24 42 | --- | 23 21 24 | 49.3 | 306.1 | 4.9 | | 62.5 | 47 | 1021 | 05 23 13 |
| 05 25 22 | NGC6670B | 23 22 04 | 51.7 | 309.7 | 4.8 | | 67.1 | 17 | 1021 | 05 25 22 |
| 05 30 22 | --- | 23 27 04 | 51.1 | 310.1 | 4.9 | | 66.4 | 300 | 1059 | 05 25 23 |

Schedule for TORUN (Code Tr ) Page 5

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 05 30 22 | J1824+5651 | 23 27 04 | 48.7 | 306.7 | 5.0 | | 61.7 | -23 | 1059 | No stop |
| 05 31 42 | --- | 23 28 25 | 48.5 | 306.8 | 5.1 | | 61.6 | 57 | 1069 | 05 30 23 |
| 05 32 22 | NGC6670B | 23 29 05 | 50.9 | 310.3 | 4.9 | | 66.0 | 17 | 1069 | 05 32 22 |
| 05 37 22 | --- | 23 34 06 | 50.3 | 310.7 | 5.0 | | 65.3 | 300 | 1108 | 05 32 23 |
| 05 37 22 | J1824+5651 | 23 34 06 | 47.8 | 307.4 | 5.2 | | 60.8 | -23 | 1108 | No stop |
| 05 38 42 | --- | 23 35 26 | 47.7 | 307.5 | 5.2 | | 60.6 | 57 | 1118 | 05 37 23 |
| 05 39 22 | NGC6670B | 23 36 06 | 50.1 | 310.8 | 5.0 | | 65.0 | 17 | 1118 | 05 39 22 |
| 05 44 32 | --- | 23 41 17 | 49.5 | 311.3 | 5.1 | | 64.2 | 310 | 1158 | 05 39 23 |
| 05 44 32 | J1824+5651 | 23 41 17 | 47.0 | 308.1 | 5.3 | | 59.8 | -23 | 1158 | No stop |
| 05 45 52 | --- | 23 42 37 | 46.8 | 308.2 | 5.3 | | 59.6 | 57 | 1168 | 05 44 33 |
| 05 46 32 | NGC6670B | 23 43 17 | 49.3 | 311.4 | 5.2 | | 63.9 | 17 | 1168 | 05 46 32 |
| 05 51 42 | --- | 23 48 28 | 48.7 | 311.9 | 5.2 | | 63.1 | 310 | 1208 | 05 46 33 |
| 05 51 42 | J1824+5651 | 23 48 28 | 46.1 | 308.8 | 5.4 | | 58.8 | -24 | 1208 | No stop |
| 05 53 02 | --- | 23 49 48 | 46.0 | 309.0 | 5.4 | | 58.7 | 56 | 1218 | 05 51 43 |
| 05 53 42 | NGC6670B | 23 50 28 | 48.5 | 312.0 | 5.3 | | 62.8 | 17 | 1218 | 05 53 42 |
| 05 58 52 | --- | 23 55 39 | 47.9 | 312.5 | 5.4 | | 62.0 | 310 | 1258 | 05 53 43 |
| 05 58 52 | J1824+5651 | 23 55 39 | 45.3 | 309.6 | 5.5 | | 57.9 | -24 | 1258 | No stop |
| 06 00 12 | --- | 23 56 59 | 45.1 | 309.7 | 5.5 | | 57.7 | 56 | 1268 | 05 58 53 |
| 06 00 52 | NGC6670B | 23 57 39 | 47.7 | 312.7 | 5.4 | | 61.7 | 16 | 1268 | 06 00 52 |
| 06 06 02 | --- | 00 02 50 | 47.1 | 313.1 | 5.5 | | 60.9 | 310 | 1308 | 06 00 53 |
| 06 06 02 | J1824+5651 | 00 02 50 | 44.5 | 310.3 | 5.6 | | 56.9 | -24 | 1308 | No stop |
| 06 07 22 | --- | 00 04 11 | 44.3 | 310.4 | 5.7 | | 56.7 | 56 | 1318 | 06 06 03 |
| 06 08 02 | NGC6670B | 00 04 51 | 46.9 | 313.3 | 5.5 | | 60.6 | 16 | 1318 | 06 08 02 |
| 06 13 12 | --- | 00 10 02 | 46.3 | 313.8 | 5.6 | | 59.8 | 310 | 1358 | 06 08 03 |
| 06 13 12 | J1824+5651 | 00 10 02 | 43.6 | 311.1 | 5.8 | | 55.9 | -24 | 1358 | No stop |
| 06 14 32 | --- | 00 11 22 | 43.5 | 311.2 | 5.8 | | 55.7 | 56 | 1368 | 06 13 13 |
| 06 15 12 | NGC6670B | 00 12 02 | 46.1 | 314.0 | 5.6 | | 59.5 | 16 | 1368 | 06 15 12 |
| 06 20 22 | --- | 00 17 13 | 45.5 | 314.4 | 5.7 | | 58.7 | 310 | 1408 | 06 15 13 |
| 06 20 22 | J1824+5651 | 00 17 13 | 42.8 | 311.8 | 5.9 | | 54.9 | -24 | 1408 | No stop |
| 06 21 42 | --- | 00 18 33 | 42.7 | 312.0 | 5.9 | | 54.7 | 56 | 1418 | 06 20 23 |
| 06 22 22 | NGC6670B | 00 19 13 | 45.3 | 314.6 | 5.8 | | 58.4 | 16 | 1418 | 06 22 22 |
| 06 27 32 | --- | 00 24 24 | 44.8 | 315.1 | 5.8 | | 57.7 | 310 | 1458 | 06 22 23 |

Schedule for TORUN (Code Tr ) Page 6

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 06 27 32 | J1824+5651 | 00 24 24 | 42.0 | 312.6 | 6.0 | | 53.9 | -24 | 1458 | No stop |
| 06 28 52 | --- | 00 25 44 | 41.9 | 312.7 | 6.0 | | 53.8 | 56 | 1468 | 06 27 33 |
| 06 29 32 | NGC6670B | 00 26 24 | 44.6 | 315.3 | 5.9 | | 57.4 | 16 | 1468 | 06 29 32 |
| 06 34 42 | --- | 00 31 35 | 44.0 | 315.8 | 6.0 | | 56.6 | 310 | 1508 | 06 29 33 |
| 06 34 42 | J1824+5651 | 00 31 35 | 41.2 | 313.4 | 6.1 | | 53.0 | -24 | 1508 | No stop |
| 06 36 02 | --- | 00 32 55 | 41.1 | 313.5 | 6.1 | | 52.8 | 56 | 1518 | 06 34 43 |
| 06 36 42 | NGC6670B | 00 33 35 | 43.8 | 316.0 | 6.0 | | 56.3 | 16 | 1518 | 06 36 42 |
| 06 41 52 | --- | 00 38 46 | 43.3 | 316.5 | 6.1 | | 55.5 | 310 | 1558 | 06 36 43 |
| 06 41 52 | J1824+5651 | 00 38 46 | 40.5 | 314.2 | 6.2 | | 52.0 | -24 | 1558 | No stop |
| 06 43 12 | --- | 00 40 06 | 40.3 | 314.3 | 6.3 | | 51.8 | 56 | 1568 | 06 41 53 |
| 06 43 52 | NGC6670B | 00 40 47 | 43.1 | 316.7 | 6.1 | | 55.2 | 16 | 1568 | 06 43 52 |
| 06 49 02 | --- | 00 45 57 | 42.5 | 317.2 | 6.2 | | 54.4 | 310 | 1608 | 06 43 53 |
| 06 49 02 | J1824+5651 | 00 45 57 | 39.7 | 315.0 | 6.4 | | 51.0 | -25 | 1608 | No stop |
| 06 50 22 | --- | 00 47 18 | 39.6 | 315.1 | 6.4 | | 50.8 | 55 | 1618 | 06 49 03 |
| 06 51 02 | NGC6670B | 00 47 58 | 42.3 | 317.4 | 6.2 | | 54.1 | 16 | 1618 | 06 51 02 |
| 06 56 12 | --- | 00 53 09 | 41.8 | 317.9 | 6.3 | | 53.4 | 310 | 1658 | 06 51 03 |
| 06 56 12 | J1824+5651 | 00 53 09 | 38.9 | 315.8 | 6.5 | | 50.0 | -25 | 1658 | No stop |
| 06 57 32 | --- | 00 54 29 | 38.8 | 315.9 | 6.5 | | 49.8 | 55 | 1668 | 06 56 13 |
| 06 58 12 | NGC6670B | 00 55 09 | 41.6 | 318.1 | 6.4 | | 53.1 | 16 | 1668 | 06 58 12 |
| 07 03 22 | --- | 01 00 20 | 41.1 | 318.6 | 6.4 | | 52.3 | 310 | 1708 | 06 58 13 |
| 07 03 22 | J1824+5651 | 01 00 20 | 38.2 | 316.6 | 6.6 | | 49.0 | -25 | 1708 | No stop |
| 07 04 42 | --- | 01 01 40 | 38.1 | 316.8 | 6.6 | | 48.8 | 55 | 1718 | 07 03 23 |
| 07 05 22 | NGC6670B | 01 02 20 | 40.9 | 318.8 | 6.5 | | 52.0 | 15 | 1718 | 07 05 22 |
| 07 10 32 | --- | 01 07 31 | 40.4 | 319.4 | 6.6 | | 51.2 | 310 | 1758 | 07 05 23 |
| 07 10 32 | J1824+5651 | 01 07 31 | 37.5 | 317.4 | 6.7 | | 48.0 | -25 | 1758 | No stop |
| 07 11 52 | --- | 01 08 51 | 37.3 | 317.6 | 6.7 | | 47.8 | 55 | 1768 | 07 10 33 |
| 07 12 32 | NGC6670B | 01 09 31 | 40.2 | 319.6 | 6.6 | | 50.9 | 15 | 1768 | 07 12 32 |
| 07 17 42 | --- | 01 14 42 | 39.7 | 320.1 | 6.7 | | 50.2 | 310 | 1808 | 07 12 33 |
| 07 17 42 | J1824+5651 | 01 14 42 | 36.7 | 318.3 | 6.8 | | 47.0 | -25 | 1808 | No stop |
| 07 19 02 | --- | 01 16 02 | 36.6 | 318.4 | 6.9 | | 46.8 | 55 | 1818 | 07 17 43 |
| 07 19 42 | NGC6670B | 01 16 42 | 39.5 | 320.3 | 6.7 | | 49.8 | 15 | 1818 | 07 19 42 |
| 07 24 52 | --- | 01 21 53 | 39.0 | 320.9 | 6.8 | | 49.1 | 310 | 1858 | 07 19 43 |

Schedule for TORUN (Code Tr ) Page 7

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 07 24 52 | J1824+5651 | 01 21 53 | 36.0 | 319.1 | 7.0 | | 46.0 | -25 | 1858 | No stop |
| 07 26 12 | --- | 01 23 14 | 35.9 | 319.3 | 7.0 | | 45.8 | 55 | 1868 | 07 24 53 |
| 07 26 52 | NGC6670B | 01 23 54 | 38.8 | 321.1 | 6.8 | | 48.8 | 15 | 1868 | 07 26 52 |
| 07 32 02 | --- | 01 29 04 | 38.3 | 321.6 | 6.9 | | 48.0 | 310 | 1908 | 07 26 53 |
| 07 32 02 | J1824+5651 | 01 29 04 | 35.3 | 319.9 | 7.1 | | 45.0 | -25 | 1908 | No stop |
| 07 33 22 | --- | 01 30 25 | 35.2 | 320.1 | 7.1 | | 44.8 | 55 | 1918 | 07 32 03 |
| 07 33 22 | J2327+0940 | 01 30 25 | 40.2 | 220.9 | 2.0 | | 23.5 | -211 | 1918 | No stop |
| 07 38 52 | --- | 01 35 56 | 39.6 | 222.6 | 2.1 | | 24.3 | 119 | 1961 | 07 33 23 |
| 07 39 32 | NGC7674 | 01 36 36 | 38.8 | 222.2 | 2.1 | | 24.1 | 25 | 1961 | 07 39 32 |
| 07 44 50 | --- | 01 41 55 | 38.2 | 223.7 | 2.2 | | 24.8 | 318 | 2001 | 07 39 33 |
| 07 44 50 | J2327+0940 | 01 41 55 | 39.0 | 224.3 | 2.2 | | 25.2 | -15 | 2001 | No stop |
| 07 45 50 | --- | 01 42 55 | 38.9 | 224.6 | 2.2 | | 25.3 | 45 | 2009 | 07 44 51 |
| 07 46 30 | NGC7674 | 01 43 35 | 38.1 | 224.2 | 2.2 | | 25.1 | 25 | 2009 | 07 46 30 |
| 07 51 50 | --- | 01 48 56 | 37.5 | 225.7 | 2.3 | | 25.8 | 320 | 2050 | 07 46 31 |
| 07 51 50 | J2327+0940 | 01 48 56 | 38.3 | 226.3 | 2.3 | | 26.1 | -15 | 2050 | No stop |
| 07 52 50 | --- | 01 49 56 | 38.2 | 226.6 | 2.4 | | 26.3 | 45 | 2058 | 07 51 51 |
| 07 53 30 | NGC7674 | 01 50 36 | 37.3 | 226.1 | 2.4 | | 26.0 | 25 | 2058 | 07 53 30 |
| 07 58 55 | --- | 01 56 02 | 36.7 | 227.7 | 2.5 | | 26.7 | 325 | 2099 | 07 53 31 |
| 07 58 55 | J2327+0940 | 01 56 02 | 37.5 | 228.3 | 2.5 | | 27.0 | -15 | 2099 | No stop |
| 07 59 55 | --- | 01 57 02 | 37.4 | 228.5 | 2.5 | | 27.2 | 45 | 2107 | 07 58 56 |
| 08 00 35 | NGC7674 | 01 57 42 | 36.5 | 228.1 | 2.5 | | 26.9 | 25 | 2107 | 08 00 35 |
| 08 06 00 | --- | 02 03 08 | 35.9 | 229.6 | 2.6 | | 27.6 | 325 | 2149 | 08 00 36 |
| 08 06 00 | J2327+0940 | 02 03 08 | 36.7 | 230.2 | 2.6 | | 27.9 | -15 | 2149 | No stop |
| 08 07 00 | --- | 02 04 08 | 36.6 | 230.5 | 2.6 | | 28.0 | 45 | 2156 | 08 06 01 |
| 08 07 40 | NGC7674 | 02 04 48 | 35.7 | 230.0 | 2.6 | | 27.8 | 25 | 2156 | 08 07 40 |
| 08 13 05 | --- | 02 10 14 | 35.1 | 231.5 | 2.7 | | 28.4 | 325 | 2198 | 08 07 41 |
| 08 13 05 | J2327+0940 | 02 10 14 | 35.8 | 232.1 | 2.7 | | 28.7 | -15 | 2198 | No stop |
| 08 14 05 | --- | 02 11 14 | 35.7 | 232.4 | 2.7 | | 28.9 | 45 | 2206 | 08 13 06 |
| 08 14 45 | NGC7674 | 02 11 54 | 34.9 | 231.9 | 2.7 | | 28.6 | 25 | 2206 | 08 14 45 |
| 08 20 05 | --- | 02 17 15 | 34.3 | 233.3 | 2.8 | | 29.2 | 320 | 2247 | 08 14 46 |

Schedule for TORUN (Code Tr ) Page 8

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 08 20 05 | J2327+0940 | 02 17 15 | 35.0 | 234.0 | 2.8 | | 29.5 | -15 | 2247 | No stop |
| 08 21 05 | --- | 02 18 16 | 34.9 | 234.2 | 2.8 | | 29.6 | 45 | 2254 | 08 20 06 |
| 08 21 45 | NGC7674 | 02 18 56 | 34.1 | 233.8 | 2.8 | | 29.4 | 25 | 2254 | 08 21 45 |
| 08 27 10 | --- | 02 24 22 | 33.4 | 235.2 | 2.9 | | 29.9 | 325 | 2296 | 08 21 46 |
| 08 27 10 | J2327+0940 | 02 24 22 | 34.1 | 235.8 | 2.9 | | 30.3 | -15 | 2296 | No stop |
| 08 28 10 | --- | 02 25 22 | 34.0 | 236.1 | 3.0 | | 30.4 | 45 | 2304 | 08 27 11 |
| 08 28 50 | NGC7674 | 02 26 02 | 33.2 | 235.6 | 3.0 | | 30.1 | 25 | 2304 | 08 28 50 |
| 08 34 15 | --- | 02 31 28 | 32.5 | 237.0 | 3.0 | | 30.6 | 325 | 2346 | 08 28 51 |
| 08 34 15 | J2327+0940 | 02 31 28 | 33.2 | 237.6 | 3.1 | | 31.0 | -15 | 2346 | No stop |
| 08 35 15 | --- | 02 32 28 | 33.1 | 237.9 | 3.1 | | 31.1 | 45 | 2353 | 08 34 16 |
| 08 35 55 | NGC7674 | 02 33 08 | 32.3 | 237.4 | 3.1 | | 30.8 | 25 | 2353 | 08 35 55 |
| 08 41 20 | --- | 02 38 34 | 31.6 | 238.8 | 3.2 | | 31.3 | 325 | 2395 | 08 35 56 |
| 08 41 20 | J2327+0940 | 02 38 34 | 32.3 | 239.4 | 3.2 | | 31.6 | -15 | 2395 | No stop |
| 08 42 20 | --- | 02 39 34 | 32.2 | 239.7 | 3.2 | | 31.7 | 45 | 2403 | 08 41 21 |
| 08 43 00 | NGC7674 | 02 40 14 | 31.4 | 239.2 | 3.2 | | 31.5 | 25 | 2403 | 08 43 00 |
| 08 48 20 | --- | 02 45 35 | 30.7 | 240.5 | 3.3 | | 31.9 | 320 | 2444 | 08 43 01 |
| 08 48 20 | J2327+0940 | 02 45 35 | 31.4 | 241.1 | 3.3 | | 32.2 | -15 | 2444 | No stop |
| 08 49 20 | --- | 02 46 35 | 31.3 | 241.4 | 3.3 | | 32.3 | 45 | 2451 | 08 48 21 |
| 08 50 00 | NGC7674 | 02 47 15 | 30.5 | 240.9 | 3.3 | | 32.1 | 25 | 2451 | 08 50 00 |
| 08 55 25 | --- | 02 52 41 | 29.8 | 242.2 | 3.4 | | 32.5 | 325 | 2493 | 08 50 01 |
| 08 55 25 | J2327+0940 | 02 52 41 | 30.5 | 242.9 | 3.4 | | 32.8 | -14 | 2493 | No stop |
| 08 56 25 | --- | 02 53 41 | 30.3 | 243.1 | 3.4 | | 32.9 | 46 | 2501 | 08 55 26 |
| 08 57 05 | NGC7674 | 02 54 21 | 29.5 | 242.6 | 3.4 | | 32.7 | 25 | 2501 | 08 57 05 |
| 09 02 30 | --- | 02 59 47 | 28.8 | 243.9 | 3.5 | | 33.1 | 325 | 2542 | 08 57 06 |
| 09 02 30 | J2327+0940 | 02 59 47 | 29.5 | 244.5 | 3.5 | | 33.4 | -14 | 2542 | No stop |
| 09 03 30 | --- | 03 00 47 | 29.4 | 244.8 | 3.5 | | 33.5 | 46 | 2550 | 09 02 31 |
| 09 04 10 | NGC7674 | 03 01 28 | 28.6 | 244.3 | 3.5 | | 33.2 | 25 | 2550 | 09 04 10 |
| 09 09 35 | --- | 03 06 53 | 27.9 | 245.6 | 3.6 | | 33.6 | 325 | 2592 | 09 04 11 |
| 09 09 35 | J2327+0940 | 03 06 53 | 28.5 | 246.2 | 3.6 | | 33.9 | -14 | 2592 | No stop |
| 09 10 35 | --- | 03 07 54 | 28.4 | 246.4 | 3.7 | | 34.0 | 46 | 2599 | 09 09 36 |

Schedule for TORUN (Code Tr ) Page 9

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 09 11 15 | NGC7674 | 03 08 34 | 27.6 | 246.0 | 3.7 | | 33.7 | 25 | 2599 | 09 11 15 |
| 09 16 35 | --- | 03 13 55 | 26.9 | 247.2 | 3.8 | | 34.1 | 320 | 2640 | 09 11 16 |
| 09 16 35 | J2327+0940 | 03 13 55 | 27.6 | 247.8 | 3.8 | | 34.4 | -14 | 2640 | No stop |
| 09 17 35 | --- | 03 14 55 | 27.4 | 248.1 | 3.8 | | 34.4 | 46 | 2648 | 09 16 36 |
| 09 18 15 | NGC7674 | 03 15 35 | 26.7 | 247.6 | 3.8 | | 34.2 | 25 | 2648 | 09 18 15 |
| 09 23 40 | --- | 03 21 01 | 25.9 | 248.8 | 3.9 | | 34.5 | 325 | 2690 | 09 18 16 |
| 09 23 40 | J2327+0940 | 03 21 01 | 26.6 | 249.5 | 3.9 | | 34.8 | -14 | 2690 | No stop |
| 09 24 40 | --- | 03 22 01 | 26.4 | 249.7 | 3.9 | | 34.8 | 46 | 2697 | 09 23 41 |
| 09 25 20 | NGC7674 | 03 22 41 | 25.7 | 249.2 | 3.9 | | 34.6 | 25 | 2697 | 09 25 20 |
| 09 30 45 | --- | 03 28 07 | 24.9 | 250.4 | 4.0 | | 34.9 | 325 | 2739 | 09 25 21 |
| 09 30 45 | J2327+0940 | 03 28 07 | 25.6 | 251.1 | 4.0 | | 35.2 | -14 | 2739 | No stop |
| 09 31 45 | --- | 03 29 07 | 25.4 | 251.3 | 4.0 | | 35.2 | 46 | 2747 | 09 30 46 |
| 09 32 25 | NGC7674 | 03 29 47 | 24.7 | 250.8 | 4.0 | | 35.0 | 25 | 2747 | 09 32 25 |
| 09 37 50 | --- | 03 35 13 | 23.9 | 252.0 | 4.1 | | 35.3 | 325 | 2788 | 09 32 26 |
| 09 37 50 | J2327+0940 | 03 35 13 | 24.6 | 252.6 | 4.1 | | 35.6 | -14 | 2788 | No stop |
| 09 38 50 | --- | 03 36 13 | 24.4 | 252.8 | 4.1 | | 35.6 | 46 | 2796 | 09 37 51 |
| 09 39 30 | NGC7674 | 03 36 53 | 23.7 | 252.3 | 4.1 | | 35.4 | 25 | 2796 | 09 39 30 |
| 09 44 50 | --- | 03 42 14 | 22.9 | 253.5 | 4.2 | | 35.6 | 320 | 2837 | 09 39 31 |
| 09 44 50 | J2327+0940 | 03 42 14 | 23.6 | 254.2 | 4.2 | | 35.9 | -14 | 2837 | No stop |
| 09 45 50 | --- | 03 43 14 | 23.4 | 254.4 | 4.2 | | 35.9 | 46 | 2845 | 09 44 51 |
| 09 45 50 | J0152+2207 | 03 43 14 | 52.7 | 224.9 | 1.8 | | 27.2 | -123 | 2845 | No stop |
| 09 48 40 | --- | 03 46 05 | 52.4 | 225.8 | 1.9 | | 27.7 | 47 | 2867 | 09 45 51 |
| 09 49 20 | NGC0695 | 03 46 45 | 52.6 | 226.8 | 1.9 | | 28.3 | 27 | 2867 | 09 49 20 |
| 09 54 40 | --- | 03 52 06 | 52.0 | 228.5 | 2.0 | | 29.2 | 320 | 2908 | 09 49 21 |
| 09 54 40 | J0152+2207 | 03 52 06 | 51.7 | 227.8 | 2.0 | | 28.7 | -12 | 2908 | No stop |
| 09 55 40 | --- | 03 53 06 | 51.6 | 228.2 | 2.0 | | 28.9 | 48 | 2915 | 09 54 41 |
| 09 56 20 | NGC0695 | 03 53 46 | 51.8 | 229.1 | 2.0 | | 29.5 | 27 | 2915 | 09 56 20 |
| 10 01 40 | --- | 03 59 07 | 51.2 | 230.8 | 2.1 | | 30.3 | 320 | 2956 | 09 56 21 |
| 10 01 40 | J0152+2207 | 03 59 07 | 50.9 | 230.1 | 2.1 | | 29.8 | -12 | 2956 | No stop |
| 10 02 40 | --- | 04 00 07 | 50.8 | 230.4 | 2.1 | | 30.0 | 48 | 2964 | 10 01 41 |

Schedule for TORUN (Code Tr ) Page 10

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 10 03 20 | NGC0695 | 04 00 47 | 51.0 | 231.3 | 2.1 | | 30.5 | 27 | 2964 | 10 03 20 |
| 10 08 40 | --- | 04 06 08 | 50.3 | 233.0 | 2.2 | | 31.3 | 320 | 3005 | 10 03 21 |
| 10 08 40 | J0152+2207 | 04 06 08 | 50.1 | 232.3 | 2.2 | | 30.9 | -12 | 3005 | No stop |
| 10 09 40 | --- | 04 07 08 | 50.0 | 232.6 | 2.2 | | 31.0 | 48 | 3013 | 10 08 41 |
| 10 10 20 | NGC0695 | 04 07 48 | 50.1 | 233.5 | 2.3 | | 31.5 | 27 | 3013 | 10 10 20 |
| 10 15 40 | --- | 04 13 09 | 49.5 | 235.1 | 2.4 | | 32.3 | 320 | 3054 | 10 10 21 |
| 10 15 40 | J0152+2207 | 04 13 09 | 49.2 | 234.5 | 2.3 | | 31.8 | -12 | 3054 | No stop |
| 10 16 40 | --- | 04 14 10 | 49.1 | 234.8 | 2.4 | | 32.0 | 48 | 3062 | 10 15 41 |
| 10 17 20 | NGC0695 | 04 14 50 | 49.3 | 235.6 | 2.4 | | 32.5 | 27 | 3062 | 10 17 20 |
| 10 22 40 | --- | 04 20 11 | 48.6 | 237.2 | 2.5 | | 33.2 | 320 | 3103 | 10 17 21 |
| 10 22 40 | J0152+2207 | 04 20 11 | 48.4 | 236.5 | 2.5 | | 32.8 | -12 | 3103 | No stop |
| 10 23 40 | --- | 04 21 11 | 48.2 | 236.8 | 2.5 | | 32.9 | 48 | 3110 | 10 22 41 |
| 10 24 20 | NGC0695 | 04 21 51 | 48.4 | 237.7 | 2.5 | | 33.4 | 27 | 3110 | 10 24 20 |
| 10 29 40 | --- | 04 27 12 | 47.7 | 239.3 | 2.6 | | 34.0 | 320 | 3151 | 10 24 21 |
| 10 29 40 | J0152+2207 | 04 27 12 | 47.5 | 238.6 | 2.6 | | 33.6 | -12 | 3151 | No stop |
| 10 30 40 | --- | 04 28 12 | 47.3 | 238.9 | 2.6 | | 33.7 | 48 | 3159 | 10 29 41 |
| 10 31 20 | NGC0695 | 04 28 52 | 47.5 | 239.7 | 2.6 | | 34.2 | 27 | 3159 | 10 31 20 |
| 10 36 40 | --- | 04 34 13 | 46.8 | 241.2 | 2.7 | | 34.8 | 320 | 3200 | 10 31 21 |
| 10 36 40 | J0152+2207 | 04 34 13 | 46.6 | 240.5 | 2.7 | | 34.4 | -12 | 3200 | No stop |
| 10 37 40 | --- | 04 35 13 | 46.4 | 240.8 | 2.7 | | 34.5 | 48 | 3208 | 10 36 41 |
| 10 38 20 | NGC0695 | 04 35 53 | 46.6 | 241.7 | 2.7 | | 34.9 | 27 | 3208 | 10 38 20 |
| 10 43 40 | --- | 04 41 14 | 45.9 | 243.1 | 2.8 | | 35.5 | 320 | 3249 | 10 38 21 |
| 10 43 40 | J0152+2207 | 04 41 14 | 45.6 | 242.5 | 2.8 | | 35.1 | -12 | 3249 | No stop |
| 10 44 40 | --- | 04 42 14 | 45.5 | 242.7 | 2.8 | | 35.2 | 48 | 3256 | 10 43 41 |
| 10 45 20 | NGC0695 | 04 42 54 | 45.7 | 243.6 | 2.8 | | 35.6 | 27 | 3256 | 10 45 20 |
| 10 50 40 | --- | 04 48 15 | 44.9 | 245.0 | 2.9 | | 36.1 | 320 | 3297 | 10 45 21 |
| 10 50 40 | J0152+2207 | 04 48 15 | 44.7 | 244.3 | 2.9 | | 35.8 | -12 | 3297 | No stop |
| 10 51 40 | --- | 04 49 15 | 44.6 | 244.6 | 2.9 | | 35.9 | 48 | 3305 | 10 50 41 |
| 10 52 20 | NGC0695 | 04 49 55 | 44.7 | 245.4 | 3.0 | | 36.3 | 28 | 3305 | 10 52 20 |
| 10 57 40 | --- | 04 55 16 | 44.0 | 246.8 | 3.1 | | 36.7 | 320 | 3346 | 10 52 21 |

Schedule for TORUN (Code Tr ) Page 11

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 10 57 40 | J0152+2207 | 04 55 16 | 43.7 | 246.2 | 3.0 | | 36.4 | -12 | 3346 | No stop |
| 10 58 40 | --- | 04 56 16 | 43.6 | 246.4 | 3.1 | | 36.5 | 48 | 3354 | 10 57 41 |
| 10 59 20 | NGC0695 | 04 56 57 | 43.7 | 247.3 | 3.1 | | 36.9 | 28 | 3354 | 10 59 20 |
| 11 04 40 | --- | 05 02 17 | 43.0 | 248.6 | 3.2 | | 37.3 | 320 | 3395 | 10 59 21 |
| 11 04 40 | J0152+2207 | 05 02 17 | 42.8 | 248.0 | 3.2 | | 37.0 | -12 | 3395 | No stop |
| 11 05 40 | --- | 05 03 18 | 42.6 | 248.2 | 3.2 | | 37.0 | 48 | 3403 | 11 04 41 |
| 11 06 20 | NGC0695 | 05 03 58 | 42.8 | 249.0 | 3.2 | | 37.4 | 28 | 3403 | 11 06 20 |
| 11 11 40 | --- | 05 09 19 | 42.0 | 250.4 | 3.3 | | 37.8 | 320 | 3444 | 11 06 21 |
| 11 11 40 | J0152+2207 | 05 09 19 | 41.8 | 249.7 | 3.3 | | 37.5 | -12 | 3444 | No stop |
| 11 12 40 | --- | 05 10 19 | 41.6 | 250.0 | 3.3 | | 37.5 | 48 | 3451 | 11 11 41 |
| 11 13 20 | NGC0695 | 05 10 59 | 41.8 | 250.8 | 3.3 | | 37.9 | 28 | 3451 | 11 13 20 |
| 11 18 40 | --- | 05 16 20 | 41.0 | 252.1 | 3.4 | | 38.2 | 320 | 3492 | 11 13 21 |
| 11 18 40 | J0152+2207 | 05 16 20 | 40.8 | 251.4 | 3.4 | | 37.9 | -12 | 3492 | No stop |
| 11 19 40 | --- | 05 17 20 | 40.7 | 251.7 | 3.4 | | 38.0 | 48 | 3500 | 11 18 41 |
| 11 20 20 | NGC0695 | 05 18 00 | 40.8 | 252.5 | 3.4 | | 38.3 | 28 | 3500 | 11 20 20 |
| 11 25 40 | --- | 05 23 21 | 40.0 | 253.7 | 3.5 | | 38.7 | 320 | 3541 | 11 20 21 |
| 11 25 40 | J0152+2207 | 05 23 21 | 39.8 | 253.1 | 3.5 | | 38.4 | -12 | 3541 | No stop |
| 11 26 40 | --- | 05 24 21 | 39.6 | 253.3 | 3.5 | | 38.4 | 48 | 3549 | 11 25 41 |
| 11 26 40 | J1302+5748 | 05 24 21 | 32.8 | 395.2 | -7.7 | | -40.4 | -300 | 3549 | No stop |
| 11 35 40 | --- | 05 33 22 | 33.6 | 396.3 | -7.5 | | -41.8 | 240 | 3618 | 11 26 41 |
| 11 36 20 | VV250A | 05 34 03 | 35.8 | 391.4 | -7.7 | | -41.9 | 15 | 3618 | 11 36 20 |
| 11 41 40 | --- | 05 39 23 | 36.2 | 392.0 | -7.6 | | -42.8 | 320 | 3659 | 11 36 21 |
| 11 41 40 | J1302+5748 | 05 39 23 | 34.1 | 397.0 | -7.4 | | -42.6 | -25 | 3659 | No stop |
| 11 43 00 | --- | 05 40 44 | 34.3 | 397.2 | -7.4 | | -42.8 | 55 | 3669 | 11 41 41 |
| 11 43 40 | VV250A | 05 41 24 | 36.4 | 392.2 | -7.6 | | -43.1 | 15 | 3669 | 11 43 40 |
| 11 49 00 | --- | 05 46 45 | 36.8 | 392.8 | -7.5 | | -43.9 | 320 | 3710 | 11 43 41 |
| 11 49 00 | J1302+5748 | 05 46 45 | 34.8 | 397.9 | -7.3 | | -43.7 | -25 | 3710 | No stop |
| 11 50 20 | --- | 05 48 05 | 34.9 | 398.0 | -7.3 | | -43.9 | 55 | 3721 | 11 49 01 |
| 11 50 20 | VV250A | 05 48 05 | 36.9 | 392.9 | -7.5 | | -44.1 | -25 | 3721 | No stop |
| 11 55 40 | --- | 05 53 26 | 37.4 | 393.5 | -7.4 | | -45.0 | 295 | 3762 | 11 50 21 |

Schedule for TORUN (Code Tr ) Page 12

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 11 56 20 | J1302+5748 | 05 54 06 | 35.5 | 398.7 | -7.2 | | -44.7 | 15 | 3762 | 11 56 20 |
| 11 57 40 | --- | 05 55 26 | 35.6 | 398.9 | -7.1 | | -44.9 | 80 | 3772 | 11 56 21 |
| 11 57 40 | VV250A | 05 55 26 | 37.5 | 393.7 | -7.3 | | -45.3 | -25 | 3772 | No stop |
| 12 03 00 | --- | 06 00 47 | 38.0 | 394.2 | -7.3 | | -46.1 | 295 | 3813 | 11 57 41 |
| 12 03 00 | J1302+5748 | 06 00 47 | 36.1 | 399.5 | -7.0 | | -45.7 | -26 | 3813 | No stop |
| 12 04 20 | --- | 06 02 07 | 36.3 | 399.7 | -7.0 | | -45.9 | 54 | 3823 | 12 03 01 |
| 12 05 00 | VV250A | 06 02 47 | 38.2 | 394.5 | -7.2 | | -46.5 | 15 | 3823 | 12 05 00 |
| 12 10 20 | --- | 06 08 08 | 38.6 | 395.0 | -7.1 | | -47.3 | 320 | 3864 | 12 05 01 |
| 12 10 20 | J1302+5748 | 06 08 08 | 36.8 | 400.4 | -6.9 | | -46.8 | -26 | 3864 | No stop |
| 12 11 40 | --- | 06 09 28 | 37.0 | 400.5 | -6.9 | | -47.0 | 54 | 3874 | 12 10 21 |
| 12 11 40 | VV250A | 06 09 28 | 38.7 | 395.1 | -7.1 | | -47.5 | -26 | 3874 | No stop |
| 12 17 00 | --- | 06 14 49 | 39.2 | 395.7 | -7.0 | | -48.4 | 294 | 3915 | 12 11 41 |
| 12 17 40 | J1302+5748 | 06 15 29 | 37.6 | 401.2 | -6.8 | | -47.8 | 14 | 3915 | 12 17 40 |
| 12 19 00 | --- | 06 16 50 | 37.7 | 401.3 | -6.8 | | -48.0 | 80 | 3926 | 12 17 41 |
| 12 19 00 | VV250A | 06 16 50 | 39.4 | 395.9 | -7.0 | | -48.7 | -26 | 3926 | No stop |
| 12 24 20 | --- | 06 22 10 | 39.8 | 396.4 | -6.9 | | -49.5 | 294 | 3967 | 12 19 01 |
| 12 24 20 | J1302+5748 | 06 22 10 | 38.2 | 401.9 | -6.7 | | -48.8 | -26 | 3967 | No stop |
| 12 25 40 | --- | 06 23 31 | 38.4 | 402.1 | -6.7 | | -48.9 | 54 | 3977 | 12 24 21 |
| 12 26 20 | VV250A | 06 24 11 | 40.0 | 396.6 | -6.9 | | -49.8 | 14 | 3977 | 12 26 20 |
| 12 31 40 | --- | 06 29 32 | 40.5 | 397.1 | -6.8 | | -50.7 | 320 | 4018 | 12 26 21 |
| 12 31 40 | J1302+5748 | 06 29 32 | 39.0 | 402.8 | -6.6 | | -49.8 | -26 | 4018 | No stop |
| 12 33 00 | --- | 06 30 52 | 39.1 | 402.9 | -6.5 | | -50.0 | 54 | 4028 | 12 31 41 |
| 12 33 00 | VV250A | 06 30 52 | 40.6 | 397.3 | -6.8 | | -50.9 | -26 | 4028 | No stop |
| 12 38 20 | --- | 06 36 13 | 41.1 | 397.8 | -6.7 | | -51.7 | 294 | 4069 | 12 33 01 |
| 12 39 00 | J1302+5748 | 06 36 53 | 39.7 | 403.6 | -6.4 | | -50.8 | 13 | 4069 | 12 39 00 |
| 12 40 20 | --- | 06 38 13 | 39.9 | 403.7 | -6.4 | | -51.0 | 80 | 4079 | 12 39 01 |
| 12 40 20 | VV250A | 06 38 13 | 41.3 | 398.0 | -6.6 | | -52.0 | -26 | 4079 | No stop |
| 12 45 40 | --- | 06 43 34 | 41.8 | 398.5 | -6.5 | | -52.9 | 294 | 4121 | 12 40 21 |
| 12 45 40 | J1302+5748 | 06 43 34 | 40.4 | 404.3 | -6.3 | | -51.8 | -27 | 4121 | No stop |
| 12 47 00 | --- | 06 44 54 | 40.6 | 404.5 | -6.3 | | -52.0 | 53 | 4131 | 12 45 41 |

Schedule for TORUN (Code Tr ) Page 13

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 12 47 40 | VV250A | 06 45 34 | 42.0 | 398.7 | -6.5 | | -53.2 | 13 | 4131 | 12 47 40 |
| 12 53 00 | --- | 06 50 55 | 42.5 | 399.2 | -6.4 | | -54.0 | 320 | 4172 | 12 47 41 |
| 12 53 00 | J1302+5748 | 06 50 55 | 41.2 | 405.1 | -6.2 | | -52.8 | -27 | 4172 | No stop |
| 12 54 20 | --- | 06 52 15 | 41.3 | 405.2 | -6.2 | | -53.0 | 53 | 4182 | 12 53 01 |
| 12 54 20 | VV250A | 06 52 15 | 42.6 | 399.3 | -6.4 | | -54.3 | -27 | 4182 | No stop |
| 12 59 40 | --- | 06 57 36 | 43.1 | 399.8 | -6.3 | | -55.1 | 293 | 4223 | 12 54 21 |
| 13 00 20 | J1302+5748 | 06 58 16 | 42.0 | 405.9 | -6.1 | | -53.9 | 13 | 4223 | 13 00 20 |
| 13 01 40 | --- | 06 59 37 | 42.1 | 406.0 | -6.1 | | -54.0 | 80 | 4233 | 13 00 21 |
| 13 01 40 | VV250A | 06 59 37 | 43.3 | 400.0 | -6.3 | | -55.4 | -27 | 4233 | No stop |
| 13 07 00 | --- | 07 04 57 | 43.8 | 400.5 | -6.2 | | -56.3 | 293 | 4274 | 13 01 41 |
| 13 07 00 | J1302+5748 | 07 04 57 | 42.7 | 406.6 | -6.0 | | -54.8 | -27 | 4274 | No stop |
| 13 08 20 | --- | 07 06 18 | 42.9 | 406.7 | -6.0 | | -55.0 | 53 | 4285 | 13 07 01 |
| 13 09 00 | VV250A | 07 06 58 | 44.0 | 400.6 | -6.2 | | -56.6 | 13 | 4285 | 13 09 00 |
| 13 14 20 | --- | 07 12 19 | 44.6 | 401.1 | -6.1 | | -57.4 | 320 | 4326 | 13 09 01 |
| 13 14 20 | J1302+5748 | 07 12 19 | 43.5 | 407.4 | -5.9 | | -55.8 | -28 | 4326 | No stop |
| 13 15 40 | --- | 07 13 39 | 43.7 | 407.5 | -5.8 | | -56.0 | 52 | 4336 | 13 14 21 |
| 13 16 20 | VV250A | 07 14 19 | 44.8 | 401.3 | -6.0 | | -57.7 | 13 | 4336 | 13 16 20 |
| 13 21 40 | --- | 07 19 40 | 45.3 | 401.8 | -5.9 | | -58.6 | 320 | 4377 | 13 16 21 |
| 13 21 40 | J1302+5748 | 07 19 40 | 44.3 | 408.1 | -5.7 | | -56.9 | -28 | 4377 | No stop |
| 13 23 00 | --- | 07 21 00 | 44.5 | 408.2 | -5.7 | | -57.0 | 52 | 4387 | 13 21 41 |
| 13 23 40 | UGC08058 | 07 21 40 | 44.8 | 410.1 | -5.6 | | -57.3 | 23 | 4387 | 13 23 40 |
| 13 29 00 | --- | 07 27 01 | 45.4 | 410.7 | -5.5 | | -58.0 | 320 | 4428 | 13 23 41 |
| 13 29 00 | J1302+5748 | 07 27 01 | 45.2 | 408.9 | -5.6 | | -57.9 | -17 | 4428 | No stop |
| 13 30 00 | --- | 07 28 01 | 45.3 | 409.0 | -5.6 | | -58.0 | 43 | 4436 | 13 29 01 |
| 13 30 40 | UGC08058 | 07 28 41 | 45.6 | 410.8 | -5.5 | | -58.2 | 23 | 4436 | 13 30 40 |
| 13 36 00 | --- | 07 34 02 | 46.2 | 411.4 | -5.4 | | -59.0 | 320 | 4477 | 13 30 41 |
| 13 36 00 | J1302+5748 | 07 34 02 | 46.0 | 409.6 | -5.5 | | -58.9 | -17 | 4477 | No stop |
| 13 37 00 | --- | 07 35 02 | 46.1 | 409.7 | -5.5 | | -59.0 | 43 | 4485 | 13 36 01 |
| 13 37 40 | UGC08058 | 07 35 43 | 46.4 | 411.5 | -5.4 | | -59.2 | 23 | 4485 | 13 37 40 |
| 13 43 00 | --- | 07 41 03 | 47.1 | 412.1 | -5.3 | | -59.9 | 320 | 4526 | 13 37 41 |
| 13 43 00 | J1302+5748 | 07 41 03 | 46.8 | 410.2 | -5.4 | | -59.9 | -17 | 4526 | No stop |
| 13 44 00 | --- | 07 42 04 | 46.9 | 410.3 | -5.4 | | -60.0 | 43 | 4533 | 13 43 01 |

Schedule for TORUN (Code Tr ) Page 14

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 13 44 40 | UGC08058 | 07 42 44 | 47.3 | 412.3 | -5.2 | | -60.1 | 23 | 4533 | 13 44 40 |
| 13 50 00 | --- | 07 48 05 | 47.9 | 412.8 | -5.1 | | -60.9 | 320 | 4574 | 13 44 41 |
| 13 50 00 | J1302+5748 | 07 48 05 | 47.6 | 410.9 | -5.3 | | -60.8 | -17 | 4574 | No stop |
| 13 51 00 | --- | 07 49 05 | 47.7 | 411.0 | -5.2 | | -61.0 | 43 | 4582 | 13 50 01 |
| 13 51 40 | UGC08058 | 07 49 45 | 48.1 | 413.0 | -5.1 | | -61.1 | 23 | 4582 | 13 51 40 |
| 13 57 00 | --- | 07 55 06 | 48.7 | 413.5 | -5.0 | | -61.8 | 320 | 4623 | 13 51 41 |
| 13 57 00 | J1302+5748 | 07 55 06 | 48.4 | 411.6 | -5.1 | | -61.8 | -17 | 4623 | No stop |
| 13 58 00 | --- | 07 56 06 | 48.5 | 411.7 | -5.1 | | -62.0 | 43 | 4631 | 13 57 01 |
| 13 58 40 | UGC08058 | 07 56 46 | 48.9 | 413.6 | -5.0 | | -62.0 | 23 | 4631 | 13 58 40 |
| 14 04 00 | --- | 08 02 07 | 49.6 | 414.2 | -4.9 | | -62.8 | 320 | 4672 | 13 58 41 |
| 14 04 00 | J1302+5748 | 08 02 07 | 49.2 | 412.3 | -5.0 | | -62.8 | -17 | 4672 | No stop |
| 14 05 00 | --- | 08 03 07 | 49.3 | 412.4 | -5.0 | | -63.0 | 43 | 4679 | 14 04 01 |
| 14 05 40 | UGC08058 | 08 03 47 | 49.8 | 414.3 | -4.9 | | -63.0 | 23 | 4679 | 14 05 40 |
| 14 11 00 | --- | 08 09 08 | 50.5 | 414.8 | -4.8 | | -63.7 | 320 | 4721 | 14 05 41 |
| 14 11 00 | J1302+5748 | 08 09 08 | 50.1 | 412.9 | -4.9 | | -63.8 | -17 | 4721 | No stop |
| 14 12 00 | --- | 08 10 08 | 50.2 | 413.0 | -4.9 | | -63.9 | 43 | 4728 | 14 11 01 |
| 14 12 40 | UGC08058 | 08 10 48 | 50.7 | 415.0 | -4.8 | | -63.9 | 22 | 4728 | 14 12 40 |
| 14 18 00 | --- | 08 16 09 | 51.3 | 415.5 | -4.7 | | -64.7 | 320 | 4769 | 14 12 41 |
| 14 18 00 | J1302+5748 | 08 16 09 | 50.9 | 413.5 | -4.8 | | -64.8 | -17 | 4769 | No stop |
| 14 19 00 | --- | 08 17 09 | 51.0 | 413.6 | -4.8 | | -64.9 | 43 | 4777 | 14 18 01 |
| 14 19 40 | UGC08058 | 08 17 49 | 51.5 | 415.7 | -4.7 | | -64.9 | 22 | 4777 | 14 19 40 |
| 14 25 00 | --- | 08 23 10 | 52.2 | 416.2 | -4.6 | | -65.6 | 320 | 4818 | 14 19 41 |
| 14 25 00 | J1302+5748 | 08 23 10 | 51.8 | 414.2 | -4.7 | | -65.8 | -18 | 4818 | No stop |
| 14 26 00 | --- | 08 24 10 | 51.9 | 414.3 | -4.7 | | -65.9 | 42 | 4826 | 14 25 01 |
| 14 26 40 | UGC08058 | 08 24 51 | 52.4 | 416.3 | -4.5 | | -65.8 | 22 | 4826 | 14 26 40 |
| 14 32 00 | --- | 08 30 11 | 53.1 | 416.8 | -4.4 | | -66.6 | 320 | 4867 | 14 26 41 |
| 14 32 00 | J1302+5748 | 08 30 11 | 52.6 | 414.8 | -4.6 | | -66.8 | -18 | 4867 | No stop |
| 14 33 00 | --- | 08 31 12 | 52.7 | 414.9 | -4.5 | | -66.9 | 42 | 4874 | 14 32 01 |
| 14 33 40 | UGC08058 | 08 31 52 | 53.3 | 416.9 | -4.4 | | -66.8 | 22 | 4874 | 14 33 40 |
| 14 39 00 | --- | 08 37 13 | 54.0 | 417.4 | -4.3 | | -67.5 | 320 | 4915 | 14 33 41 |
| 14 39 00 | J1302+5748 | 08 37 13 | 53.5 | 415.4 | -4.4 | | -67.8 | -18 | 4915 | No stop |
| 14 40 00 | --- | 08 38 13 | 53.6 | 415.5 | -4.4 | | -67.9 | 42 | 4923 | 14 39 01 |

Schedule for TORUN (Code Tr ) Page 15

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 14 40 40 | UGC08058 | 08 38 53 | 54.2 | 417.6 | -4.3 | | -67.8 | 22 | 4923 | 14 40 40 |
| 14 46 00 | --- | 08 44 14 | 54.8 | 418.0 | -4.2 | | -68.5 | 320 | 4964 | 14 40 41 |
| 14 46 00 | J1302+5748 | 08 44 14 | 54.3 | 416.0 | -4.3 | | -68.8 | -18 | 4964 | No stop |
| 14 47 00 | --- | 08 45 14 | 54.5 | 416.1 | -4.3 | | -68.9 | 42 | 4972 | 14 46 01 |
| 14 47 40 | UGC08058 | 08 45 54 | 55.1 | 418.2 | -4.2 | | -68.7 | 22 | 4972 | 14 47 40 |
| 14 53 00 | --- | 08 51 15 | 55.7 | 418.7 | -4.1 | | -69.5 | 320 | 5013 | 14 47 41 |
| 14 53 00 | J1302+5748 | 08 51 15 | 55.2 | 416.6 | -4.2 | | -69.8 | -18 | 5013 | No stop |
| 14 54 00 | --- | 08 52 15 | 55.4 | 416.6 | -4.2 | | -70.0 | 42 | 5021 | 14 53 01 |
| 14 54 40 | UGC08058 | 08 52 55 | 56.0 | 418.8 | -4.1 | | -69.7 | 22 | 5021 | 14 54 40 |
| 15 00 00 | --- | 08 58 16 | 56.6 | 419.2 | -4.0 | | -70.5 | 320 | 5062 | 14 54 41 |

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: sess214.L1024
--- WARNING --- This group does not match an entry in the frequency catalog.
This might be ok because the catalog is not complete.
But be very careful to be sure that the setup is correct.

Setup group: 11 Station: TORUN Total bit rate: 1024
Format: MARK5B Bits per sample: 2 Sample rate: 32.000
Number of channels: 16 DBE type: Speedup factor: 1.00

Disk used to record data.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1st LO= | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 |
| | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 |
| Net SB= | L | L | U | U | L | L | U | U |
| | L | L | U | U | L | L | U | U |
| IF SB = | L | L | L | L | L | L | L | L |
| | L | L | L | L | L | L | L | L |
| Pol. = | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| BBC = | 1 | 5 | 1 | 5 | 2 | 6 | 2 | 6 |
| | 3 | 7 | 3 | 7 | 4 | 8 | 4 | 8 |
| BBC SB= | U | U | L | L | U | U | L | L |
| | U | U | L | L | U | U | L | L |
| IF = | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |
| | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |

```
 The following frequency sets based on these setups were used.

  Frequency Set:   6  Setup file default.
  LO sum=   1610.49  1610.49  1610.49  1610.49  1642.49  1642.49  1642.49  1642.49
            1674.49  1674.49  1674.49  1674.49  1706.49  1706.49  1706.49  1706.49
  BBC fr=    689.51   689.51   689.51   689.51   657.51   657.51   657.51   657.51
             625.51   625.51   625.51   625.51   593.51   593.51   593.51   593.51
  Bandwd=     16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
              16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
   Matching frequency sets:   6

  Track assignments are:
   track1=   2,  4,  6,  8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
   barrel=roll_off
```

POSITIONS OF SOURCES USED IN RECORDING SCANS

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * NGC0695 | 01 48 27.865737 | * 01 51 14.360000 | 01 52 02.109275 | 0.00 |
| | 22 20 04.49740 | * 22 34 53.60000 | 22 38 59.51110 | 0.00 |
| * J0152+2207 | 01 49 31.744135 | * 01 52 18.059046 | 01 53 05.747998 | 0.00 |
| | 21 52 20.74791 | * 22 07 07.69979 | 22 11 13.06159 | 0.00 |
| | From catalog imbedded in main SCHED input file. | | | |
| * VV250A | 13 13 41.827997 | * 13 15 34.960000 | 13 16 08.451693 | 0.00 |
| | 62 23 17.94084 | * 62 07 28.80000 | 62 03 08.70428 | 0.00 |
| * J1302+5748 | 13 00 47.131441 | * 13 02 52.465277 | 13 03 29.322176 | 0.00 |
| | 58 04 43.18811 | * 57 48 37.60932 | 57 44 11.98645 | 0.00 |
| * IRASF17132 | 17 13 13.492841 | * 17 14 19.790000 | 17 14 41.162398 | 0.00 |
| | 53 13 49.22408 | * 53 10 28.60000 | 53 09 36.37359 | 0.00 |
| * J1740+5211 | 17 39 29.003552 | * 17 40 36.977849 | 17 40 58.829813 | 0.00 |
| | 52 13 10.43849 | * 52 11 43.40743 | 52 11 22.64080 | 0.00 |
| * NGC6670B | 18 32 54.385680 | * 18 33 34.300000 | 18 33 48.427100 | 0.00 |
| | 59 50 53.33524 | * 59 53 18.20000 | 59 54 00.71993 | 0.00 |
| * J1824+5651 | 18 23 14.951499 | * 18 24 07.068377 | 18 24 24.552683 | 0.00 |
| | 56 49 18.07202 | * 56 51 01.49083 | 56 51 32.90446 | 0.00 |
| * NGC7674 | 23 25 24.417983 | * 23 27 56.720000 | 23 28 40.940413 | 0.00 |
| | 08 30 12.56310 | * 08 46 44.10000 | 08 51 28.69840 | 0.00 |
| * J2327+0940 | 23 25 01.451380 | * 23 27 33.580562 | 23 28 17.763570 | 0.00 |
| | 09 23 38.17562 | * 09 40 09.46273 | 09 44 53.71024 | 0.00 |
| * UGC08058 | 12 54 05.003420 | * 12 56 14.240000 | 12 56 52.156181 | 0.00 |
| | 57 08 38.04347 | * 56 52 25.10000 | 56 47 57.12907 | 0.00 |
| J2253+1608 | 22 51 29.519738 | * 22 53 57.747937 | 22 54 41.060072 | 0.68 |
| * 3C454.3 | 15 52 54.34810 | * 16 08 53.56093 | 16 13 27.83430 | 0.72 |

# n14l2tr

NETWORK MONITORING EXPERIMENT

PI: *Dmitry Duev*

Address: JIVE Postbus 2 7990 AA Dwingeloo The Netherlands
Phone: +31-521-596521 EMAIL: duev@jive.nl
Phone during observation: +31-521-596521

Notes: 18cm NME for session 2/2014
512 Mbps, 2-bit sampling, 8 MHz filters
Send the disk pack by express to JIVE
DBBC testing data from Mc and Tr are expected.

COVER LETTER:

Dear EVN friends,

This is the schedule for the 18cm NME and ftp fringe-test on 2 June 2014,
involving 13 antennas: Eb Wb Jb1 On25 Nt Tr Sv Zc Bd Sh Hh Sr T6 (Td).
The NME uses a standard setup with 512 Mbps and consists of long
integrations on a strong calibrator 3C286 and phase-referencing cycles
with sources OQ208 as a calibrator and 1417+273 as a target.

Four ftp tests are scheduled:

(1) 16:11:38 UT (scan 2, 2 sec, 3C286)
(2) 16:51:58 UT (scan 11, 2 sec, OQ208)
(3) 18:11:18 UT (scan 27, 2 sec, OQ208)
(4) 18:53:58 UT (scan 35, 2 sec, 3C286)

Please make sure that the autoftp is set up correctly.

Good luck with the session and see you on Skype!

Dmitry
Skype account: oasis230987

Schedule for TORUN (Code Tr ) Page 2

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early / Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| Next scan frequencies: | | 1634.49 | 1634.49 | 1634.49 | 1634.49 | 1650.49 | 1650.49 | 1650.49 | 1650.49 | |
| | | 1666.49 | 1666.49 | 1666.49 | 1666.49 | 1682.49 | 1682.49 | 1682.49 | 1682.49 | |
| Next BBC frequencies: | | 665.51 | 665.51 | 665.51 | 665.51 | 649.51 | 649.51 | 649.51 | 649.51 | |
| | | 633.51 | 633.51 | 633.51 | 633.51 | 617.51 | 617.51 | 617.51 | 617.51 | |
| Next scan bandwidths: | | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | |
| | | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | |
| 16 00 00 | 3C286 | 09 58 26 | 45.6 | 98.8 | -3.6 | | -43.5 | 0 | 0 | 16 00 00 |
| 16 05 00 | --- | 10 03 27 | 46.3 | 100.0 | -3.5 | | -43.3 | 300 | 19 | 16 00 01 |
| 16 05 40 | 3C286 | 10 04 07 | 46.4 | 100.1 | -3.5 | | -43.3 | 34 | 19 | 16 05 40 |
| 16 10 40 | --- | 10 09 08 | 47.2 | 101.3 | -3.4 | | -43.1 | 300 | 39 | 16 05 41 |
| 16 12 40 | OQ208 | 10 11 08 | 40.6 | 95.7 | -3.9 | | -42.8 | 81 | 39 | 16 12 40 |
| 16 15 40 | --- | 10 14 08 | 41.1 | 96.3 | -3.9 | | -42.7 | 180 | 50 | 16 12 41 |
| 16 16 20 | 1417+273 | 10 14 49 | 38.2 | 94.9 | -4.1 | | -42.2 | 15 | 50 | 16 16 20 |
| 16 21 20 | --- | 10 19 49 | 39.0 | 96.0 | -4.0 | | -42.1 | 300 | 70 | 16 16 21 |
| 16 22 00 | OQ208 | 10 20 30 | 42.0 | 97.7 | -3.8 | | -42.6 | 15 | 70 | 16 22 00 |
| 16 25 00 | --- | 10 23 30 | 42.5 | 98.4 | -3.7 | | -42.5 | 180 | 81 | 16 22 01 |
| 16 25 40 | 1417+273 | 10 24 10 | 39.6 | 96.9 | -3.9 | | -42.0 | 15 | 81 | 16 25 40 |
| 16 30 40 | --- | 10 29 11 | 40.4 | 98.0 | -3.9 | | -41.9 | 300 | 101 | 16 25 41 |
| 16 31 20 | OQ208 | 10 29 51 | 43.4 | 99.8 | -3.6 | | -42.3 | 15 | 101 | 16 31 20 |
| 16 34 20 | --- | 10 32 52 | 43.9 | 100.5 | -3.6 | | -42.2 | 180 | 112 | 16 31 21 |
| 16 35 00 | 1417+273 | 10 33 32 | 41.0 | 98.9 | -3.8 | | -41.8 | 15 | 112 | 16 35 00 |
| 16 40 00 | --- | 10 38 32 | 41.8 | 100.0 | -3.7 | | -41.6 | 300 | 132 | 16 35 01 |
| 16 40 40 | OQ208 | 10 39 13 | 44.8 | 101.9 | -3.5 | | -41.9 | 15 | 132 | 16 40 40 |
| 16 43 40 | --- | 10 42 13 | 45.2 | 102.6 | -3.4 | | -41.8 | 180 | 143 | 16 40 41 |
| 16 44 20 | 1417+273 | 10 42 53 | 42.4 | 101.0 | -3.6 | | -41.4 | 15 | 143 | 16 44 20 |
| 16 49 20 | --- | 10 47 54 | 43.2 | 102.2 | -3.5 | | -41.2 | 300 | 163 | 16 44 21 |
| 16 50 00 | OQ208 | 10 48 34 | 46.2 | 104.1 | -3.3 | | -41.5 | 15 | 163 | 16 50 00 |
| 16 53 00 | --- | 10 51 35 | 46.6 | 104.8 | -3.3 | | -41.3 | 180 | 174 | 16 50 01 |
| 16 53 40 | 1417+273 | 10 52 15 | 43.8 | 103.2 | -3.5 | | -41.0 | 15 | 174 | 16 53 40 |
| 16 58 40 | --- | 10 57 16 | 44.5 | 104.3 | -3.4 | | -40.8 | 300 | 194 | 16 53 41 |
| 16 59 20 | OQ208 | 10 57 56 | 47.5 | 106.4 | -3.2 | | -40.9 | 15 | 194 | 16 59 20 |
| 17 02 20 | --- | 11 00 56 | 48.0 | 107.1 | -3.1 | | -40.7 | 180 | 205 | 16 59 21 |
| 17 03 00 | 1417+273 | 11 01 36 | 45.2 | 105.4 | -3.3 | | -40.5 | 15 | 205 | 17 03 00 |
| 17 08 00 | --- | 11 06 37 | 45.9 | 106.6 | -3.2 | | -40.2 | 300 | 225 | 17 03 01 |

Schedule for TORUN (Code Tr ) Page 3

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 17 08 40 | OQ208 | 11 07 17 | 48.9 | 108.7 | -3.0 | | -40.3 | 15 | 225 | 17 08 40 |
| 17 11 40 | --- | 11 10 18 | 49.3 | 109.5 | -3.0 | | -40.1 | 180 | 236 | 17 08 41 |
| 17 12 20 | 1417+273 | 11 10 58 | 46.5 | 107.7 | -3.2 | | -40.0 | 15 | 236 | 17 12 20 |
| 17 17 20 | --- | 11 15 59 | 47.2 | 108.9 | -3.1 | | -39.6 | 300 | 255 | 17 12 21 |
| 17 18 00 | OQ208 | 11 16 39 | 50.2 | 111.1 | -2.9 | | -39.5 | 15 | 255 | 17 18 00 |
| 17 21 00 | --- | 11 19 39 | 50.6 | 111.9 | -2.8 | | -39.3 | 180 | 267 | 17 18 01 |
| 17 21 40 | 1417+273 | 11 20 19 | 47.8 | 110.0 | -3.0 | | -39.3 | 16 | 267 | 17 21 40 |
| 17 26 40 | --- | 11 25 20 | 48.5 | 111.3 | -2.9 | | -38.9 | 300 | 286 | 17 21 41 |
| 17 28 40 | 3C286 | 11 27 20 | 58.0 | 122.7 | -2.1 | | -35.9 | 71 | 286 | 17 28 40 |
| 17 33 40 | --- | 11 32 21 | 58.7 | 124.4 | -2.0 | | -35.1 | 300 | 306 | 17 28 41 |
| 17 34 20 | 3C286 | 11 33 01 | 58.7 | 124.6 | -2.0 | | -35.0 | 34 | 306 | 17 34 20 |
| 17 39 20 | --- | 11 38 02 | 59.4 | 126.3 | -1.9 | | -34.1 | 300 | 325 | 17 34 21 |
| 17 41 20 | OQ208 | 11 40 03 | 53.4 | 117.7 | -2.5 | | -37.2 | 83 | 325 | 17 41 20 |
| 17 44 20 | --- | 11 43 03 | 53.8 | 118.6 | -2.4 | | -36.8 | 180 | 337 | 17 41 21 |
| 17 45 00 | 1417+273 | 11 43 43 | 51.1 | 116.3 | -2.6 | | -37.2 | 16 | 337 | 17 45 00 |
| 17 50 00 | --- | 11 48 44 | 51.7 | 117.7 | -2.5 | | -36.6 | 300 | 356 | 17 45 01 |
| 17 50 40 | OQ208 | 11 49 24 | 54.6 | 120.5 | -2.3 | | -36.0 | 16 | 356 | 17 50 40 |
| 17 53 40 | --- | 11 52 25 | 55.0 | 121.4 | -2.3 | | -35.6 | 180 | 368 | 17 50 41 |
| 17 54 20 | 1417+273 | 11 53 05 | 52.3 | 119.0 | -2.5 | | -36.1 | 16 | 368 | 17 54 20 |
| 17 59 20 | --- | 11 58 06 | 53.0 | 120.5 | -2.4 | | -35.5 | 300 | 387 | 17 54 21 |
| 18 00 00 | OQ208 | 11 58 46 | 55.8 | 123.4 | -2.1 | | -34.7 | 16 | 387 | 18 00 00 |
| 18 03 00 | --- | 12 01 46 | 56.2 | 124.4 | -2.1 | | -34.3 | 180 | 399 | 18 00 01 |
| 18 03 40 | 1417+273 | 12 02 26 | 53.5 | 121.8 | -2.3 | | -34.9 | 16 | 399 | 18 03 40 |
| 18 08 40 | --- | 12 07 27 | 54.2 | 123.4 | -2.2 | | -34.3 | 300 | 418 | 18 03 41 |
| 18 09 20 | OQ208 | 12 08 07 | 56.9 | 126.5 | -2.0 | | -33.3 | 16 | 418 | 18 09 20 |
| 18 12 20 | --- | 12 11 08 | 57.3 | 127.5 | -1.9 | | -32.8 | 180 | 430 | 18 09 21 |
| 18 13 00 | 1417+273 | 12 11 48 | 54.7 | 124.8 | -2.1 | | -33.6 | 16 | 430 | 18 13 00 |
| 18 18 00 | --- | 12 16 49 | 55.3 | 126.4 | -2.1 | | -32.9 | 300 | 449 | 18 13 01 |
| 18 18 40 | OQ208 | 12 17 29 | 58.1 | 129.7 | -1.8 | | -31.7 | 16 | 449 | 18 18 40 |
| 18 21 40 | --- | 12 20 29 | 58.4 | 130.8 | -1.8 | | -31.1 | 180 | 461 | 18 18 41 |
| 18 22 20 | 1417+273 | 12 21 09 | 55.8 | 127.8 | -2.0 | | -32.2 | 16 | 461 | 18 22 20 |
| 18 27 20 | --- | 12 26 10 | 56.4 | 129.5 | -1.9 | | -31.3 | 300 | 480 | 18 22 21 |

Schedule for TORUN (Code Tr ) Page 4

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 18 28 00 | OQ208 | 12 26 50 | 59.1 | 133.1 | -1.7 | | -29.9 | 16 | 480 | 18 28 00 |
| 18 31 00 | --- | 12 29 51 | 59.4 | 134.3 | -1.6 | | -29.3 | 180 | 492 | 18 28 01 |
| 18 31 40 | 1417+273 | 12 30 31 | 56.9 | 131.0 | -1.8 | | -30.6 | 16 | 492 | 18 31 40 |
| 18 36 40 | --- | 12 35 32 | 57.5 | 132.8 | -1.8 | | -29.6 | 300 | 511 | 18 31 41 |
| 18 37 20 | OQ208 | 12 36 12 | 60.1 | 136.7 | -1.5 | | -27.9 | 16 | 511 | 18 37 20 |
| 18 40 20 | --- | 12 39 12 | 60.4 | 137.9 | -1.5 | | -27.2 | 180 | 523 | 18 37 21 |
| 18 41 00 | 1417+273 | 12 39 52 | 57.9 | 134.4 | -1.7 | | -28.8 | 17 | 523 | 18 41 00 |
| 18 46 00 | --- | 12 44 53 | 58.5 | 136.3 | -1.6 | | -27.8 | 300 | 542 | 18 41 01 |
| 18 48 00 | 3C286 | 12 46 54 | 65.9 | 155.7 | -0.7 | | -16.7 | 67 | 542 | 18 48 00 |
| 18 53 00 | --- | 12 51 54 | 66.2 | 158.3 | -0.7 | | -14.9 | 300 | 561 | 18 48 01 |
| 18 53 40 | 3C286 | 12 52 34 | 66.2 | 158.6 | -0.7 | | -14.7 | 33 | 561 | 18 53 40 |
| 18 58 40 | --- | 12 57 35 | 66.5 | 161.2 | -0.6 | | -12.9 | 300 | 581 | 18 53 41 |

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: sess214.L512
--- WARNING --- This group does not match an entry in the frequency catalog.
This might be ok because the catalog is not complete.
But be very careful to be sure that the setup is correct.

Setup group: 11 Station: TORUN Total bit rate: 512
Format: MARK5B Bits per sample: 2 Sample rate: 16.000
Number of channels: 16 DBE type: Speedup factor: 1.00

Disk used to record data.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1st LO= | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 |
| | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 | 2300.00 |
| Net SB= | L | L | U | U | L | L | U | U |
| | L | L | U | U | L | L | U | U |
| Pol. = | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| BBC = | 1 | 5 | 1 | 5 | 2 | 6 | 2 | 6 |
| | 3 | 7 | 3 | 7 | 4 | 8 | 4 | 8 |
| BBC SB= | U | U | L | L | U | U | L | L |
| | U | U | L | L | U | U | L | L |
| IF = | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |
| | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |

The following frequency sets based on these setups were used.

```
 Frequency Set:   6  Setup file default.
 LO sum=   1634.49  1634.49  1634.49  1634.49  1650.49  1650.49  1650.49  1650.49
           1666.49  1666.49  1666.49  1666.49  1682.49  1682.49  1682.49  1682.49
 BBC fr=    665.51   665.51   665.51   665.51   649.51   649.51   649.51   649.51
            633.51   633.51   633.51   633.51   617.51   617.51   617.51   617.51
 Bandwd=      8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
              8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
  Matching frequency sets:   6

 Track assignments are:
  track1=   2,  4,  6,  8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
  barrel=roll_off
```

SOURCES USED IN RECORDING SCANS -- Network Monitoring Experiment

Catalog positions marked with *.
Precession of date coordinates is based on stop time of first scan.
Names used in schedule marked with *.
Short names used in VLA and SNAP files marked with +.
Observation date used in B1950/J2000 coordinate conversion (PRECDATE): 1979.900
No adjustments are made for rates (DRA, DDEC).
Scan hours are for recording scans only.
Baseline hours are only counted for scans above horizon at both ends.

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| J1331+3030 | 13 28 49.657778 | * 13 31 08.288070 | 13 31 49.296223 | 0.20 |
| * 3C286 | 30 45 58.64061 | * 30 30 32.95925 | 30 26 13.07774 | 0.19 |
| J1407+2827 | 14 04 45.615156 | * 14 07 00.394414 | 14 07 40.495969 | 0.24 |
| * OQ208 | 28 41 29.23519 | * 28 27 14.69022 | 28 23 15.41936 | 0.34 |
| J1419+2706 | 14 17 45.094588 | * 14 19 59.297073 | 14 20 39.300745 | 0.12 |
| * 1417+273 | 27 20 09.10590 | * 27 06 25.55268 | 27 02 35.10788 | 0.11 |

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) |
|---|---|
| 3C286 | 110.2 |
| OQ208 | 117.1 |
| 1417+273 | 120.0 |

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
that the Sun will cause amplitude reductions on the longest VLBA baselines
at a solar distance of 60deg F^(-0.6) where F is in GHz.
For common VLBI bands, this is:

| | |
|---|---|
| 327 MHz | 117. deg |
| 610 MHz | 81. deg |
| 1.6 GHz | 45. deg |
| 2.3 GHz | 36. deg |
| 5.0 GHz | 23. deg |
| 8.4 GHz | 17. deg |
| 15.0 GHz | 12. deg |
| 22.0 GHz | 9. deg |
| 43.0 GHz | 6. deg |

**rk01g7tr**

RadioAstron AGN Survey

PI: *Yuri Kovalev*


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Fax: +7-495-3332378 Phone during observation: +7-915-1546281


UWAGA: zmiana pasma w czasie tego eksperymentu!!!

########################################################################################
######################## Observing mode: L&C-band, dual-pol ############################
########################################################################################

Schedule for TORUN (Code Tr ) Page 2
RadioAstron AGN Survey
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| ---------- L-band VLBI scans ---------- | | | | | | | | | | |
| Next scan frequencies: | | 1668.00 | 1668.00 | 1668.00 | 1668.00 | | | | | |
| Next BBC frequencies: | | 732.00 | 732.00 | 732.00 | | | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | | | | | |
| 19 10 00 | 1055+018 | 13 08 57 | 31.8 | 219.1 | 2.2 | | 22.3 | 0 | 0 | 19 10 00 |
| 19 20 00 | --- | 13 18 59 | 30.9 | 221.8 | 2.3 | | 23.6 | 600 | 19 | 19 10 01 |
| ---------- C-band VLBI scans ---------- | | | | | | | | | | |
| Next scan frequencies: | | 4836.00 | 4836.00 | 4836.00 | 4836.00 | | | | | |
| Next BBC frequencies: | | 736.00 | 736.00 | 736.00 | 736.00 | | | | | |
| 19 25 00 | 1055+018 | 13 24 00 | 30.3 | 223.2 | 2.4 | | 24.3 | 293 | 19 | 19 25 00 |
| 19 39 30 | --- | 13 38 32 | 28.8 | 226.9 | 2.7 | | 26.0 | 870 | 47 | 19 25 01 |
| 19 40 00 | 1055+018 | 13 39 02 | 28.7 | 227.1 | 2.7 | | 26.1 | 24 | 47 | 19 40 00 |
| 19 45 00 | --- | 13 44 03 | 28.2 | 228.3 | 2.7 | | 26.7 | 300 | 57 | 19 40 01 |

SETUP FILE INFORMATION:

Setup group: 12 Station: TORUN Total bit rate: 256
Format: KIV1:4 Bits per sample: 2 Sample rate: 32.000
Number of channels: 4 DBE type: Speedup factor: 1.00

Disk used to record data.

```
 1st LO=   2400.00   2400.00   2400.00   2400.00
 Net SB=         L         L         U         U
 IF SB =         L         L         L         L
 Pol.  =      RCP       LCP       RCP       LCP
 BBC   =         1         2         1         2
 BBC SB=         U         U         L         L
 IF    =        A1        B1        A1        B1

The following frequency sets based on these setups were used.

 Frequency Set:   9  Setup file default.  Used with PCAL = 1MHz
 LO sum=   1668.00  1668.00  1668.00  1668.00
 BBC fr=    732.00   732.00   732.00   732.00
 Bandwd=     16.00    16.00    16.00    16.00
  Matching frequency sets:   9

 Track assignments are:
  track1=   2, 18,  3, 19
  barrel=roll_off



 Setup group:    3         Station: TORUN             Total bit rate:   256
 Format: MKIV1:4            Bits per sample: 2         Sample rate: 32.000
 Number of channels:  4    DBE type:          Speedup factor:   1.00

 Disk used to record data.

 1st LO=   4100.00   4100.00   4100.00   4100.00
 Net SB=         L         L         U         U
 IF SB =         U         U         U         U
 Pol.  =      RCP       LCP       RCP       LCP
 BBC   =         1         2         1         2
 BBC SB=         L         L         U         U
 IF    =        C         A         C         A

The following frequency sets based on these setups were used.

 Frequency Set:  11  Setup file default.  Used with PCAL = 1MHz
 LO sum=   4836.00  4836.00  4836.00  4836.00
 BBC fr=    736.00   736.00   736.00   736.00
 Bandwd=     16.00    16.00    16.00    16.00
  Matching frequency sets:  11

 Track assignments are:
  track1=   2, 18,  3, 19
  barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                        Source position (RA/Dec)                        Error
                      (B1950)            (J2000)            (Date)            (mas)

* 1055+018          10 55 55.313729   * 10 58 29.605207     10 59 14.541294       0.00
  J1058+0133        01 50 03.53709    * 01 33 58.82359      01 29 13.01464        0.00
```

# el048atr

## Phase-reference VLBI on NGC7479 at 18cm

PI: *Laine*

Address: Caltech/IPAC
Phone: (626) 395-5727 EMAIL: seppo@ipac.caltech.edu

Schedule for TORUN (Code Tr ) Page 2
Phase-reference VLBI on NGC7479 at 18cm
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| Next scan frequencies: | | 1610.49 | 1610.49 | 1610.49 | 1610.49 | | 1642.49 | 1642.49 | 1642.49 | 1642.49 |
| | | 1674.49 | 1674.49 | 1674.49 | 1674.49 | | 1706.49 | 1706.49 | 1706.49 | 1706.49 |
| Next BBC frequencies: | | 689.51 | 689.51 | 689.51 | 689.51 | | 657.51 | 657.51 | 657.51 | 657.51 |
| | | 625.51 | 625.51 | 625.51 | 625.51 | | 593.51 | 593.51 | 593.51 | 593.51 |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | | 16.00 | 16.00 | 16.00 | 16.00 |
| | | 16.00 | 16.00 | 16.00 | 16.00 | | 16.00 | 16.00 | 16.00 | 16.00 |
| 23 15 00 | BLLAC | 17 14 37 | 42.4 | 72.4 | -4.8 | | -50.7 | 0 | 0 | 23 15 00 |
| 23 18 00 | --- | 17 17 38 | 42.8 | 72.8 | -4.8 | | -50.9 | 180 | 23 | 23 15 01 |
| 23 23 00 | BLLAC | 17 22 39 | 43.6 | 73.6 | -4.7 | | -51.2 | 293 | 23 | 23 23 00 |
| 23 26 00 | --- | 17 25 39 | 44.0 | 74.1 | -4.6 | | -51.4 | 180 | 46 | 23 23 01 |
| 23 31 15 | J2310+1055 | 17 30 55 | 11.7 | 87.2 | -5.7 | | -37.7 | 178 | 46 | 23 31 15 |
| 23 32 05 | =2307+106 | 17 32 00 | 11.9 | 87.5 | -5.7 | | -37.7 | 50 | 53 | 23 31 16 |
| 23 32 05 | NGC7479 | 17 31 45 | 13.8 | 87.6 | -5.6 | | -37.9 | -21 | 53 | No stop |
| 23 36 05 | --- | 17 35 46 | 14.4 | 88.4 | -5.5 | | -37.9 | 219 | 83 | 23 32 06 |
| 23 36 05 | J2300+1037 | 17 35 46 | 13.7 | 90.4 | -5.4 | | -37.7 | -18 | 83 | No stop |
| 23 37 45 | =2257+103 | 17 37 26 | 14.0 | 90.7 | -5.4 | | -37.7 | 82 | 96 | 23 36 06 |
| 23 38 25 | J2310+1055 | 17 38 06 | 12.8 | 88.7 | -5.6 | | -37.7 | 22 | 96 | 23 38 25 |
| 23 39 15 | =2307+106 | 17 38 56 | 12.9 | 88.8 | -5.5 | | -37.7 | 50 | 103 | 23 38 26 |
| 23 39 15 | NGC7479 | 17 38 56 | 14.9 | 89.1 | -5.4 | | -37.9 | -21 | 103 | No stop |
| 23 43 15 | --- | 17 42 57 | 15.5 | 89.9 | -5.4 | | -37.9 | 219 | 133 | 23 39 16 |
| 23 43 15 | J2300+1037 | 17 42 57 | 14.8 | 91.9 | -5.3 | | -37.6 | -18 | 133 | No stop |
| 23 44 55 | =2257+103 | 17 44 37 | 15.1 | 92.2 | -5.3 | | -37.6 | 82 | 146 | 23 43 16 |
| 23 45 35 | J2310+1055 | 17 45 17 | 13.9 | 90.1 | -5.4 | | -37.7 | 22 | 146 | 23 45 35 |
| 23 46 25 | =2307+106 | 17 46 08 | 14.0 | 90.3 | -5.4 | | -37.7 | 50 | 153 | 23 45 36 |
| 23 46 25 | NGC7479 | 17 46 08 | 15.9 | 90.5 | -5.3 | | -37.9 | -21 | 153 | No stop |
| 23 50 25 | --- | 17 50 08 | 16.5 | 91.3 | -5.3 | | -37.9 | 219 | 183 | 23 46 26 |
| 23 50 25 | J2300+1037 | 17 50 08 | 15.9 | 93.3 | -5.2 | | -37.6 | -18 | 183 | No stop |
| 23 52 05 | =2257+103 | 17 51 48 | 16.2 | 93.6 | -5.2 | | -37.6 | 82 | 196 | 23 50 26 |

Schedule for TORUN (Code Tr ) Page 3

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 2 Jun 2014 Day 153 --- | | | | | | | | | | |
| 23 52 45 | J2310+1055 | 17 52 29 | 15.0 | 91.5 | -5.3 | | -37.7 | 22 | 196 | 23 52 45 |
| 23 53 35 | =2307+106 | 17 53 19 | 15.1 | 91.7 | -5.3 | | -37.7 | 50 | 203 | 23 52 46 |
| 23 53 35 | NGC7479 | 17 53 19 | 17.0 | 91.9 | -5.2 | | -37.9 | -21 | 203 | No stop |
| 23 57 35 | --- | 17 57 19 | 17.6 | 92.7 | -5.1 | | -37.9 | 219 | 233 | 23 53 36 |
| 23 57 35 | J2300+1037 | 17 57 19 | 17.0 | 94.8 | -5.1 | | -37.5 | -18 | 233 | No stop |
| 23 59 15 | =2257+103 | 17 59 00 | 17.2 | 95.1 | -5.0 | | -37.5 | 82 | 246 | 23 57 36 |
| --- Start: Mon 2 Jun 2014 Day 153 -- Stop: Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 23 59 55 | J2310+1055 | 17 59 40 | 16.0 | 93.0 | -5.2 | | -37.7 | 22 | 246 | 23 59 55 |
| 00 00 45 | =2307+106 | 18 00 30 | 16.2 | 93.2 | -5.2 | | -37.6 | 50 | 253 | 23 59 56 |
| 00 00 45 | NGC7479 | 18 00 30 | 18.1 | 93.4 | -5.1 | | -37.9 | -21 | 253 | No stop |
| 00 04 45 | --- | 18 04 31 | 18.7 | 94.2 | -5.0 | | -37.8 | 219 | 283 | 00 00 46 |
| 00 04 45 | J2300+1037 | 18 04 31 | 18.1 | 96.2 | -4.9 | | -37.4 | -18 | 283 | No stop |
| 00 06 25 | =2257+103 | 18 06 11 | 18.3 | 96.6 | -4.9 | | -37.4 | 82 | 296 | 00 04 46 |
| 00 07 05 | J2310+1055 | 18 06 51 | 17.1 | 94.4 | -5.1 | | -37.6 | 22 | 296 | 00 07 05 |
| 00 07 55 | =2307+106 | 18 07 41 | 17.2 | 94.6 | -5.1 | | -37.6 | 50 | 303 | 00 07 06 |
| 00 07 55 | NGC7479 | 18 07 41 | 19.2 | 94.8 | -5.0 | | -37.8 | -21 | 303 | No stop |
| 00 11 55 | --- | 18 11 42 | 19.8 | 95.7 | -4.9 | | -37.7 | 219 | 333 | 00 07 56 |
| 00 11 55 | J2300+1037 | 18 11 42 | 19.1 | 97.7 | -4.8 | | -37.3 | -18 | 333 | No stop |
| 00 13 35 | =2257+103 | 18 13 22 | 19.4 | 98.1 | -4.8 | | -37.2 | 82 | 346 | 00 11 56 |
| 00 14 15 | J2310+1055 | 18 14 02 | 18.2 | 95.9 | -5.0 | | -37.5 | 22 | 346 | 00 14 15 |
| 00 15 05 | =2307+106 | 18 14 52 | 18.3 | 96.1 | -4.9 | | -37.5 | 50 | 353 | 00 14 16 |
| 00 15 05 | NGC7479 | 18 14 52 | 20.2 | 96.3 | -4.8 | | -37.7 | -21 | 353 | No stop |
| 00 19 05 | --- | 18 18 53 | 20.8 | 97.1 | -4.8 | | -37.6 | 219 | 383 | 00 15 06 |
| 00 19 05 | J2300+1037 | 18 18 53 | 20.2 | 99.2 | -4.7 | | -37.1 | -18 | 383 | No stop |
| 00 20 45 | =2257+103 | 18 20 33 | 20.4 | 99.6 | -4.7 | | -37.1 | 82 | 396 | 00 19 06 |
| 00 21 25 | J2310+1055 | 18 21 13 | 19.3 | 97.4 | -4.8 | | -37.3 | 22 | 396 | 00 21 25 |
| 00 22 15 | =2307+106 | 18 22 03 | 19.4 | 97.6 | -4.8 | | -37.3 | 50 | 403 | 00 21 26 |
| 00 22 15 | NGC7479 | 18 22 03 | 21.3 | 97.8 | -4.7 | | -37.5 | -21 | 403 | No stop |
| 00 26 15 | --- | 18 26 04 | 21.9 | 98.6 | -4.7 | | -37.4 | 219 | 433 | 00 22 16 |
| 00 26 15 | J2300+1037 | 18 26 04 | 21.3 | 100.7 | -4.6 | | -36.9 | -18 | 433 | No stop |
| 00 27 55 | =2257+103 | 18 27 44 | 21.5 | 101.1 | -4.6 | | -36.9 | 82 | 446 | 00 26 16 |

Schedule for TORUN (Code Tr ) Page 4

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 00 28 35 | J2310+1055 | 18 28 24 | 20.3 | 98.9 | -4.7 | | -37.2 | 22 | 446 | 00 28 35 |
| 00 29 25 | =2307+106 | 18 29 15 | 20.5 | 99.1 | -4.7 | | -37.2 | 50 | 453 | 00 28 36 |
| 00 29 25 | NGC7479 | 18 29 15 | 22.4 | 99.3 | -4.6 | | -37.4 | -21 | 453 | No stop |
| 00 33 25 | --- | 18 33 15 | 23.0 | 100.2 | -4.5 | | -37.2 | 219 | 483 | 00 29 26 |
| 00 33 25 | J2300+1037 | 18 33 15 | 22.3 | 102.2 | -4.5 | | -36.7 | -18 | 483 | No stop |
| 00 35 05 | =2257+103 | 18 34 56 | 22.6 | 102.6 | -4.4 | | -36.6 | 82 | 496 | 00 33 26 |
| 00 35 45 | J2310+1055 | 18 35 36 | 21.4 | 100.4 | -4.6 | | -37.0 | 21 | 496 | 00 35 45 |
| 00 36 35 | =2307+106 | 18 36 26 | 21.5 | 100.6 | -4.6 | | -37.0 | 50 | 503 | 00 35 46 |
| 00 41 35 | 3C454.3 | 18 41 27 | 28.8 | 101.7 | -4.2 | | -37.8 | 261 | 503 | 00 41 35 |
| 00 44 35 | --- | 18 44 27 | 29.3 | 102.3 | -4.2 | | -37.7 | 180 | 526 | 00 41 36 |
| 00 49 50 | J2310+1055 | 18 49 43 | 23.5 | 103.4 | -4.4 | | -36.5 | 277 | 526 | 00 49 50 |
| 00 50 40 | =2307+106 | 18 50 48 | 23.6 | 103.6 | -4.3 | | -36.5 | 50 | 532 | 00 49 51 |
| 00 50 40 | NGC7479 | 18 50 33 | 25.5 | 103.9 | -4.3 | | -36.7 | -21 | 532 | No stop |
| 00 54 40 | --- | 18 54 34 | 26.1 | 104.7 | -4.2 | | -36.5 | 219 | 563 | 00 50 41 |
| 00 54 40 | J2300+1037 | 18 54 34 | 25.4 | 106.9 | -4.1 | | -35.8 | -18 | 563 | No stop |
| 00 56 20 | =2257+103 | 18 56 14 | 25.6 | 107.2 | -4.1 | | -35.7 | 82 | 576 | 00 54 41 |
| 00 57 00 | J2310+1055 | 18 56 54 | 24.5 | 104.9 | -4.2 | | -36.2 | 21 | 576 | 00 57 00 |
| 00 57 50 | =2307+106 | 18 57 44 | 24.6 | 105.1 | -4.2 | | -36.2 | 50 | 582 | 00 57 01 |
| 00 57 50 | NGC7479 | 18 57 44 | 26.6 | 105.4 | -4.1 | | -36.3 | -21 | 582 | No stop |
| 01 01 50 | --- | 19 01 45 | 27.1 | 106.3 | -4.1 | | -36.2 | 219 | 613 | 00 57 51 |
| 01 01 50 | J2300+1037 | 19 01 45 | 26.4 | 108.4 | -4.0 | | -35.4 | -18 | 613 | No stop |
| 01 03 30 | =2257+103 | 19 03 25 | 26.7 | 108.8 | -4.0 | | -35.3 | 82 | 626 | 01 01 51 |
| 01 04 10 | J2310+1055 | 19 04 05 | 25.6 | 106.5 | -4.1 | | -35.9 | 21 | 626 | 01 04 10 |
| 01 05 00 | =2307+106 | 19 04 55 | 25.7 | 106.7 | -4.1 | | -35.9 | 50 | 632 | 01 04 11 |
| 01 05 00 | NGC7479 | 19 04 55 | 27.6 | 107.0 | -4.0 | | -36.0 | -21 | 632 | No stop |
| 01 09 00 | --- | 19 08 56 | 28.2 | 107.9 | -3.9 | | -35.8 | 219 | 663 | 01 05 01 |
| 01 09 00 | J2300+1037 | 19 08 56 | 27.5 | 110.1 | -3.9 | | -35.0 | -18 | 663 | No stop |
| 01 10 40 | =2257+103 | 19 10 36 | 27.7 | 110.4 | -3.8 | | -34.9 | 82 | 676 | 01 09 01 |
| 01 11 20 | J2310+1055 | 19 11 16 | 26.6 | 108.1 | -4.0 | | -35.5 | 21 | 676 | 01 11 20 |
| 01 12 10 | =2307+106 | 19 12 07 | 26.7 | 108.3 | -4.0 | | -35.5 | 50 | 682 | 01 11 21 |
| 01 12 10 | NGC7479 | 19 12 07 | 28.6 | 108.6 | -3.9 | | -35.6 | -21 | 682 | No stop |
| 01 16 10 | --- | 19 16 07 | 29.2 | 109.5 | -3.8 | | -35.4 | 219 | 713 | 01 12 11 |

Schedule for TORUN (Code Tr ) Page 5

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 01 16 10 | J2300+1037 | 19 16 07 | 28.5 | 111.7 | -3.7 | | -34.6 | -18 | 713 | No stop |
| 01 17 50 | =2257+103 | 19 17 48 | 28.7 | 112.1 | -3.7 | | -34.5 | 82 | 726 | 01 16 11 |
| 01 18 30 | J2310+1055 | 19 18 28 | 27.6 | 109.7 | -3.9 | | -35.2 | 21 | 726 | 01 18 30 |
| 01 19 20 | =2307+106 | 19 19 18 | 27.7 | 109.9 | -3.9 | | -35.1 | 50 | 732 | 01 18 31 |
| 01 19 20 | NGC7479 | 19 19 18 | 29.6 | 110.3 | -3.8 | | -35.2 | -21 | 732 | No stop |
| 01 23 20 | --- | 19 23 18 | 30.2 | 111.2 | -3.7 | | -35.0 | 219 | 763 | 01 19 21 |
| 01 23 20 | J2300+1037 | 19 23 18 | 29.5 | 113.4 | -3.6 | | -34.1 | -18 | 763 | No stop |
| 01 25 00 | =2257+103 | 19 24 59 | 29.7 | 113.8 | -3.6 | | -34.0 | 82 | 776 | 01 23 21 |
| 01 25 40 | J2310+1055 | 19 25 39 | 28.6 | 111.4 | -3.8 | | -34.7 | 21 | 776 | 01 25 40 |
| 01 26 30 | =2307+106 | 19 26 29 | 28.7 | 111.6 | -3.7 | | -34.7 | 50 | 782 | 01 25 41 |
| 01 26 30 | NGC7479 | 19 26 29 | 30.7 | 111.9 | -3.7 | | -34.8 | -21 | 782 | No stop |
| 01 30 30 | --- | 19 30 30 | 31.2 | 112.9 | -3.6 | | -34.5 | 219 | 813 | 01 26 31 |
| 01 30 30 | J2300+1037 | 19 30 30 | 30.4 | 115.1 | -3.5 | | -33.6 | -18 | 813 | No stop |
| 01 32 10 | =2257+103 | 19 32 10 | 30.7 | 115.5 | -3.5 | | -33.5 | 82 | 826 | 01 30 31 |
| 01 32 50 | J2310+1055 | 19 32 50 | 29.6 | 113.0 | -3.6 | | -34.3 | 21 | 826 | 01 32 50 |
| 01 33 40 | =2307+106 | 19 33 40 | 29.7 | 113.2 | -3.6 | | -34.2 | 50 | 832 | 01 32 51 |
| 01 33 40 | NGC7479 | 19 33 40 | 31.6 | 113.6 | -3.5 | | -34.3 | -21 | 832 | No stop |
| 01 37 40 | --- | 19 37 41 | 32.2 | 114.6 | -3.5 | | -34.0 | 219 | 863 | 01 33 41 |
| 01 37 40 | J2300+1037 | 19 37 41 | 31.4 | 116.8 | -3.4 | | -33.1 | -18 | 863 | No stop |
| 01 39 20 | =2257+103 | 19 39 21 | 31.6 | 117.2 | -3.4 | | -32.9 | 82 | 876 | 01 37 41 |
| 01 40 00 | J2310+1055 | 19 40 01 | 30.6 | 114.7 | -3.5 | | -33.8 | 21 | 876 | 01 40 00 |
| 01 40 50 | =2307+106 | 19 40 51 | 30.7 | 114.9 | -3.5 | | -33.7 | 50 | 882 | 01 40 01 |
| 01 40 50 | NGC7479 | 19 40 51 | 32.6 | 115.3 | -3.4 | | -33.8 | -21 | 882 | No stop |
| 01 44 50 | --- | 19 44 52 | 33.2 | 116.3 | -3.3 | | -33.4 | 219 | 913 | 01 40 51 |
| 01 44 50 | J2300+1037 | 19 44 52 | 32.4 | 118.5 | -3.3 | | -32.5 | -19 | 913 | No stop |
| 01 46 30 | =2257+103 | 19 46 32 | 32.6 | 118.9 | -3.2 | | -32.3 | 81 | 926 | 01 44 51 |
| 01 47 10 | J2310+1055 | 19 47 12 | 31.6 | 116.4 | -3.4 | | -33.2 | 21 | 926 | 01 47 10 |
| 01 48 00 | =2307+106 | 19 48 03 | 31.7 | 116.6 | -3.4 | | -33.1 | 50 | 932 | 01 47 11 |
| 01 48 00 | NGC7479 | 19 48 03 | 33.6 | 117.1 | -3.3 | | -33.2 | -21 | 932 | No stop |
| 01 52 00 | --- | 19 52 03 | 34.1 | 118.1 | -3.2 | | -32.9 | 219 | 963 | 01 48 01 |

Schedule for TORUN (Code Tr ) Page 6

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 01 52 00 | J2300+1037 | 19 52 03 | 33.3 | 120.3 | -3.1 | | -31.8 | -19 | 963 | No stop |
| 01 53 40 | =2257+103 | 19 53 43 | 33.5 | 120.7 | -3.1 | | -31.7 | 81 | 976 | 01 52 01 |
| 01 54 20 | J2310+1055 | 19 54 24 | 32.5 | 118.2 | -3.3 | | -32.6 | 20 | 976 | 01 54 20 |
| 01 55 10 | =2307+106 | 19 55 14 | 32.6 | 118.4 | -3.3 | | -32.6 | 50 | 982 | 01 54 21 |
| 01 55 10 | NGC7479 | 19 55 14 | 34.5 | 118.9 | -3.2 | | -32.6 | -21 | 982 | No stop |
| 01 59 10 | --- | 19 59 14 | 35.1 | 119.9 | -3.1 | | -32.2 | 219 | 1013 | 01 55 11 |
| 01 59 10 | J2300+1037 | 19 59 14 | 34.2 | 122.1 | -3.0 | | -31.2 | -19 | 1013 | No stop |
| 02 00 50 | =2257+103 | 20 00 55 | 34.4 | 122.5 | -3.0 | | -31.0 | 81 | 1026 | 01 59 11 |
| 02 01 30 | J2310+1055 | 20 01 35 | 33.5 | 120.0 | -3.2 | | -32.0 | 20 | 1026 | 02 01 30 |
| 02 02 20 | =2307+106 | 20 02 25 | 33.6 | 120.2 | -3.1 | | -31.9 | 50 | 1032 | 02 01 31 |
| 02 02 20 | NGC7479 | 20 02 25 | 35.5 | 120.7 | -3.1 | | -31.9 | -21 | 1032 | No stop |
| 02 06 20 | --- | 20 06 26 | 36.0 | 121.7 | -3.0 | | -31.5 | 219 | 1063 | 02 02 21 |
| 02 06 20 | J2300+1037 | 20 06 26 | 35.1 | 124.0 | -2.9 | | -30.5 | -19 | 1063 | No stop |
| 02 08 00 | =2257+103 | 20 08 06 | 35.3 | 124.4 | -2.9 | | -30.3 | 81 | 1076 | 02 06 21 |
| 02 08 40 | J2310+1055 | 20 08 46 | 34.4 | 121.8 | -3.0 | | -31.3 | 20 | 1076 | 02 08 40 |
| 02 09 30 | =2307+106 | 20 09 36 | 34.5 | 122.0 | -3.0 | | -31.3 | 50 | 1082 | 02 08 41 |
| 02 09 30 | NGC7479 | 20 09 36 | 36.4 | 122.5 | -2.9 | | -31.2 | -21 | 1082 | No stop |
| 02 13 30 | --- | 20 13 37 | 36.9 | 123.6 | -2.9 | | -30.8 | 219 | 1113 | 02 09 31 |
| 02 13 30 | J2300+1037 | 20 13 37 | 36.0 | 125.8 | -2.8 | | -29.7 | -19 | 1113 | No stop |
| 02 15 10 | =2257+103 | 20 15 17 | 36.2 | 126.3 | -2.8 | | -29.5 | 81 | 1126 | 02 13 31 |
| 02 15 50 | J2310+1055 | 20 15 57 | 35.3 | 123.6 | -2.9 | | -30.6 | 20 | 1126 | 02 15 50 |
| 02 16 40 | =2307+106 | 20 16 47 | 35.4 | 123.8 | -2.9 | | -30.5 | 50 | 1132 | 02 15 51 |
| 02 16 40 | NGC7479 | 20 16 47 | 37.3 | 124.4 | -2.8 | | -30.5 | -21 | 1132 | No stop |
| 02 20 40 | --- | 20 20 48 | 37.8 | 125.5 | -2.7 | | -30.0 | 219 | 1163 | 02 16 41 |
| 02 20 40 | J2300+1037 | 20 20 48 | 36.9 | 127.8 | -2.7 | | -28.9 | -19 | 1163 | No stop |
| 02 22 20 | =2257+103 | 20 22 28 | 37.1 | 128.2 | -2.6 | | -28.7 | 81 | 1176 | 02 20 41 |
| 02 23 00 | J2310+1055 | 20 23 08 | 36.2 | 125.5 | -2.8 | | -29.9 | 20 | 1176 | 02 23 00 |
| 02 23 50 | =2307+106 | 20 23 58 | 36.3 | 125.7 | -2.8 | | -29.8 | 50 | 1182 | 02 23 01 |
| 02 23 50 | NGC7479 | 20 23 58 | 38.2 | 126.3 | -2.7 | | -29.7 | -21 | 1182 | No stop |
| 02 27 50 | --- | 20 27 59 | 38.7 | 127.4 | -2.6 | | -29.2 | 219 | 1213 | 02 23 51 |

Schedule for TORUN (Code Tr ) Page 7

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 02 27 50 | J2300+1037 | 20 27 59 | 37.7 | 129.7 | -2.6 | | -28.0 | -19 | 1213 | No stop |
| 02 29 30 | =2257+103 | 20 29 39 | 37.9 | 130.2 | -2.5 | | -27.8 | 81 | 1226 | 02 27 51 |
| 02 30 10 | J2310+1055 | 20 30 19 | 37.1 | 127.4 | -2.7 | | -29.1 | 20 | 1226 | 02 30 10 |
| 02 31 00 | =2307+106 | 20 31 10 | 37.2 | 127.6 | -2.7 | | -29.0 | 50 | 1232 | 02 30 11 |
| 02 36 00 | 3C454.3 | 20 36 10 | 44.3 | 130.4 | -2.3 | | -28.5 | 261 | 1232 | 02 36 00 |
| 02 39 00 | --- | 20 39 11 | 44.6 | 131.3 | -2.3 | | -28.0 | 180 | 1255 | 02 36 01 |
| 02 44 15 | J2310+1055 | 20 44 27 | 38.7 | 131.3 | -2.4 | | -27.4 | 277 | 1255 | 02 44 15 |
| 02 45 05 | =2307+106 | 20 45 32 | 38.8 | 131.6 | -2.4 | | -27.2 | 50 | 1262 | 02 44 16 |
| 02 45 05 | NGC7479 | 20 45 17 | 40.7 | 132.2 | -2.3 | | -27.1 | -21 | 1262 | No stop |
| 02 49 05 | --- | 20 49 18 | 41.1 | 133.4 | -2.3 | | -26.5 | 219 | 1292 | 02 45 06 |
| 02 49 05 | J2300+1037 | 20 49 18 | 40.1 | 135.7 | -2.2 | | -25.3 | -19 | 1292 | No stop |
| 02 50 45 | =2257+103 | 20 50 58 | 40.2 | 136.2 | -2.2 | | -25.0 | 81 | 1305 | 02 49 06 |
| 02 51 25 | J2310+1055 | 20 51 38 | 39.5 | 133.3 | -2.3 | | -26.4 | 19 | 1305 | 02 51 25 |
| 02 52 15 | =2307+106 | 20 52 28 | 39.6 | 133.5 | -2.3 | | -26.3 | 50 | 1312 | 02 51 26 |
| 02 52 15 | NGC7479 | 20 52 28 | 41.4 | 134.3 | -2.2 | | -26.1 | -21 | 1312 | No stop |
| 02 56 15 | --- | 20 56 29 | 41.9 | 135.5 | -2.2 | | -25.5 | 219 | 1342 | 02 52 16 |
| 02 56 15 | J2300+1037 | 20 56 29 | 40.8 | 137.8 | -2.1 | | -24.2 | -19 | 1342 | No stop |
| 02 57 55 | =2257+103 | 20 58 09 | 41.0 | 138.3 | -2.0 | | -24.0 | 81 | 1355 | 02 56 16 |
| 02 58 35 | J2310+1055 | 20 58 49 | 40.3 | 135.4 | -2.2 | | -25.5 | 19 | 1355 | 02 58 35 |
| 02 59 25 | =2307+106 | 20 59 39 | 40.4 | 135.6 | -2.2 | | -25.3 | 50 | 1362 | 02 58 36 |
| 02 59 25 | NGC7479 | 20 59 39 | 42.2 | 136.5 | -2.1 | | -25.1 | -21 | 1362 | No stop |
| 03 03 25 | --- | 21 03 40 | 42.6 | 137.7 | -2.0 | | -24.5 | 219 | 1392 | 02 59 26 |
| 03 03 25 | J2300+1037 | 21 03 40 | 41.5 | 140.0 | -2.0 | | -23.1 | -19 | 1392 | No stop |
| 03 05 05 | =2257+103 | 21 05 20 | 41.7 | 140.5 | -1.9 | | -22.9 | 81 | 1405 | 03 03 26 |
| 03 05 45 | J2310+1055 | 21 06 00 | 41.0 | 137.5 | -2.1 | | -24.4 | 19 | 1405 | 03 05 45 |
| 03 06 35 | =2307+106 | 21 06 50 | 41.1 | 137.7 | -2.1 | | -24.3 | 50 | 1412 | 03 05 46 |
| 03 06 35 | NGC7479 | 21 06 50 | 42.9 | 138.6 | -2.0 | | -24.0 | -21 | 1412 | No stop |
| 03 10 35 | --- | 21 10 51 | 43.3 | 139.8 | -1.9 | | -23.4 | 219 | 1442 | 03 06 36 |
| 03 10 35 | J2300+1037 | 21 10 51 | 42.2 | 142.2 | -1.8 | | -22.0 | -19 | 1442 | No stop |
| 03 12 15 | =2257+103 | 21 12 31 | 42.4 | 142.7 | -1.8 | | -21.7 | 81 | 1455 | 03 10 36 |

Schedule for TORUN (Code Tr ) Page 8

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 03 12 55 | J2310+1055 | 21 13 11 | 41.7 | 139.6 | -2.0 | | -23.3 | 19 | 1455 | 03 12 55 |
| 03 13 45 | =2307+106 | 21 14 02 | 41.8 | 139.9 | -2.0 | | -23.2 | 50 | 1462 | 03 12 56 |
| 03 13 45 | NGC7479 | 21 14 02 | 43.6 | 140.8 | -1.9 | | -22.9 | -21 | 1462 | No stop |
| 03 17 45 | --- | 21 18 02 | 44.0 | 142.1 | -1.8 | | -22.2 | 219 | 1492 | 03 13 46 |
| 03 17 45 | J2300+1037 | 21 18 02 | 42.8 | 144.4 | -1.7 | | -20.8 | -19 | 1492 | No stop |
| 03 19 25 | =2257+103 | 21 19 43 | 43.0 | 144.9 | -1.7 | | -20.6 | 81 | 1505 | 03 17 46 |
| 03 20 05 | J2310+1055 | 21 20 23 | 42.4 | 141.8 | -1.8 | | -22.2 | 19 | 1505 | 03 20 05 |
| 03 20 55 | =2307+106 | 21 21 13 | 42.5 | 142.1 | -1.8 | | -22.1 | 50 | 1512 | 03 20 06 |
| 03 20 55 | NGC7479 | 21 21 13 | 44.3 | 143.1 | -1.7 | | -21.7 | -21 | 1512 | No stop |
| 03 24 55 | --- | 21 25 13 | 44.6 | 144.4 | -1.7 | | -21.0 | 219 | 1542 | 03 20 56 |
| 03 24 55 | J2300+1037 | 21 25 13 | 43.5 | 146.7 | -1.6 | | -19.6 | -19 | 1542 | No stop |
| 03 26 35 | =2257+103 | 21 26 54 | 43.6 | 147.2 | -1.6 | | -19.3 | 81 | 1555 | 03 24 56 |
| 03 27 15 | J2310+1055 | 21 27 34 | 43.1 | 144.0 | -1.7 | | -21.0 | 19 | 1555 | 03 27 15 |
| 03 28 05 | =2307+106 | 21 28 24 | 43.1 | 144.3 | -1.7 | | -20.9 | 50 | 1562 | 03 27 16 |
| 03 28 05 | NGC7479 | 21 28 24 | 44.9 | 145.4 | -1.6 | | -20.4 | -21 | 1562 | No stop |
| 03 32 05 | --- | 21 32 25 | 45.3 | 146.7 | -1.6 | | -19.7 | 219 | 1592 | 03 28 06 |
| 03 32 05 | J2300+1037 | 21 32 25 | 44.0 | 149.0 | -1.5 | | -18.4 | -19 | 1592 | No stop |
| 03 33 45 | =2257+103 | 21 34 05 | 44.2 | 149.5 | -1.4 | | -18.1 | 81 | 1605 | 03 32 06 |
| 03 34 25 | J2310+1055 | 21 34 45 | 43.7 | 146.3 | -1.6 | | -19.8 | 19 | 1605 | 03 34 25 |
| 03 35 15 | =2307+106 | 21 35 35 | 43.7 | 146.6 | -1.6 | | -19.7 | 50 | 1612 | 03 34 26 |
| 03 35 15 | NGC7479 | 21 35 35 | 45.5 | 147.7 | -1.5 | | -19.2 | -20 | 1612 | No stop |
| 03 39 15 | --- | 21 39 36 | 45.8 | 149.1 | -1.4 | | -18.4 | 220 | 1642 | 03 35 16 |
| 03 39 15 | J2300+1037 | 21 39 36 | 44.6 | 151.3 | -1.4 | | -17.1 | -19 | 1642 | No stop |
| 03 40 55 | =2257+103 | 21 41 16 | 44.7 | 151.9 | -1.3 | | -16.7 | 81 | 1655 | 03 39 16 |
| 03 41 35 | J2310+1055 | 21 41 56 | 44.3 | 148.6 | -1.5 | | -18.6 | 19 | 1655 | 03 41 35 |
| 03 42 25 | =2307+106 | 21 42 46 | 44.3 | 148.9 | -1.5 | | -18.4 | 50 | 1662 | 03 41 36 |
| 03 42 25 | NGC7479 | 21 42 46 | 46.1 | 150.1 | -1.4 | | -17.8 | -20 | 1662 | No stop |
| 03 46 25 | --- | 21 46 47 | 46.4 | 151.5 | -1.3 | | -17.1 | 220 | 1692 | 03 42 26 |
| 03 46 25 | J2300+1037 | 21 46 47 | 45.1 | 153.7 | -1.2 | | -15.7 | -19 | 1692 | No stop |
| 03 48 05 | =2257+103 | 21 48 27 | 45.2 | 154.3 | -1.2 | | -15.4 | 81 | 1705 | 03 46 26 |

Schedule for TORUN (Code Tr ) Page 9

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 03 48 45 | J2310+1055 | 21 49 07 | 44.8 | 151.0 | -1.4 | | -17.3 | 18 | 1705 | 03 48 45 |
| 03 49 35 | =2307+106 | 21 49 57 | 44.9 | 151.3 | -1.4 | | -17.1 | 50 | 1712 | 03 48 46 |
| 03 49 35 | NGC7479 | 21 49 57 | 46.6 | 152.5 | -1.3 | | -16.5 | -20 | 1712 | No stop |
| 03 53 35 | --- | 21 53 58 | 46.9 | 153.9 | -1.2 | | -15.7 | 220 | 1742 | 03 49 36 |
| 03 53 35 | J2300+1037 | 21 53 58 | 45.5 | 156.1 | -1.1 | | -14.3 | -19 | 1742 | No stop |
| 03 55 15 | =2257+103 | 21 55 38 | 45.6 | 156.7 | -1.1 | | -14.0 | 81 | 1755 | 03 53 36 |
| 03 55 55 | J2310+1055 | 21 56 19 | 45.3 | 153.4 | -1.2 | | -15.9 | 18 | 1755 | 03 55 55 |
| 03 56 45 | =2307+106 | 21 57 09 | 45.4 | 153.7 | -1.2 | | -15.7 | 50 | 1762 | 03 55 56 |
| 03 56 45 | NGC7479 | 21 57 09 | 47.1 | 155.0 | -1.1 | | -15.1 | -20 | 1762 | No stop |
| 04 00 45 | --- | 22 01 09 | 47.3 | 156.4 | -1.1 | | -14.2 | 220 | 1792 | 03 56 46 |
| 04 00 45 | J2300+1037 | 22 01 09 | 45.9 | 158.6 | -1.0 | | -12.9 | -18 | 1792 | No stop |
| 04 02 25 | =2257+103 | 22 02 50 | 46.0 | 159.2 | -1.0 | | -12.6 | 82 | 1805 | 04 00 46 |
| 04 03 05 | J2310+1055 | 22 03 30 | 45.8 | 155.8 | -1.1 | | -14.5 | 18 | 1805 | 04 03 05 |
| 04 03 55 | =2307+106 | 22 04 20 | 45.8 | 156.1 | -1.1 | | -14.4 | 50 | 1812 | 04 03 06 |
| 04 03 55 | NGC7479 | 22 04 20 | 47.5 | 157.5 | -1.0 | | -13.6 | -20 | 1812 | No stop |
| 04 07 55 | --- | 22 08 20 | 47.7 | 158.9 | -1.0 | | -12.8 | 220 | 1842 | 04 03 56 |
| 04 07 55 | J2300+1037 | 22 08 20 | 46.3 | 161.1 | -0.9 | | -11.4 | -19 | 1842 | No stop |
| 04 09 35 | =2257+103 | 22 10 01 | 46.4 | 161.7 | -0.9 | | -11.1 | 81 | 1855 | 04 07 56 |
| 04 10 15 | J2310+1055 | 22 10 41 | 46.2 | 158.3 | -1.0 | | -13.1 | 18 | 1855 | 04 10 15 |
| 04 11 05 | =2307+106 | 22 11 31 | 46.2 | 158.6 | -1.0 | | -12.9 | 50 | 1862 | 04 10 16 |
| 04 11 05 | NGC7479 | 22 11 31 | 47.9 | 160.1 | -0.9 | | -12.1 | -20 | 1862 | No stop |
| 04 15 05 | --- | 22 15 32 | 48.1 | 161.5 | -0.8 | | -11.3 | 220 | 1892 | 04 11 06 |
| 04 15 05 | J2300+1037 | 22 15 32 | 46.6 | 163.6 | -0.8 | | -9.9 | -19 | 1892 | No stop |
| 04 16 45 | =2257+103 | 22 17 12 | 46.7 | 164.2 | -0.7 | | -9.6 | 81 | 1905 | 04 15 06 |
| 04 17 25 | J2310+1055 | 22 17 52 | 46.6 | 160.8 | -0.9 | | -11.6 | 18 | 1905 | 04 17 25 |
| 04 18 15 | =2307+106 | 22 18 42 | 46.6 | 161.1 | -0.9 | | -11.4 | 50 | 1912 | 04 17 26 |
| 04 18 15 | NGC7479 | 22 18 42 | 48.2 | 162.6 | -0.8 | | -10.6 | -20 | 1912 | No stop |
| 04 22 15 | --- | 22 22 43 | 48.4 | 164.1 | -0.7 | | -9.7 | 220 | 1942 | 04 18 16 |
| 04 22 15 | J2300+1037 | 22 22 43 | 46.9 | 166.1 | -0.6 | | -8.4 | -19 | 1942 | No stop |
| 04 23 55 | =2257+103 | 22 24 23 | 47.0 | 166.7 | -0.6 | | -8.1 | 81 | 1955 | 04 22 16 |

Schedule for TORUN (Code Tr ) Page 10

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 04 24 35 | J2310+1055 | 22 25 03 | 46.9 | 163.3 | -0.8 | | -10.1 | 18 | 1955 | 04 24 35 |
| 04 25 25 | =2307+106 | 22 25 53 | 46.9 | 163.6 | -0.8 | | -9.9 | 50 | 1962 | 04 24 36 |
| 04 30 25 | 3C454.3 | 22 30 54 | 52.8 | 170.5 | -0.4 | | -5.9 | 264 | 1962 | 04 30 25 |
| 04 33 25 | --- | 22 33 55 | 52.9 | 171.7 | -0.3 | | -5.2 | 180 | 1985 | 04 30 26 |
| 04 38 40 | J2310+1055 | 22 39 11 | 47.4 | 168.3 | -0.5 | | -7.1 | 280 | 1985 | 04 38 40 |
| 04 39 30 | =2307+106 | 22 40 16 | 47.5 | 168.7 | -0.5 | | -6.9 | 50 | 1991 | 04 38 41 |
| 04 39 30 | NGC7479 | 22 40 01 | 49.0 | 170.4 | -0.4 | | -5.9 | -19 | 1991 | No stop |
| 04 43 30 | --- | 22 44 01 | 49.1 | 171.9 | -0.4 | | -5.0 | 221 | 2022 | 04 39 31 |
| 04 43 30 | J2300+1037 | 22 44 01 | 47.5 | 173.8 | -0.3 | | -3.8 | -20 | 2022 | No stop |
| 04 45 10 | =2257+103 | 22 45 42 | 47.5 | 174.4 | -0.3 | | -3.4 | 80 | 2035 | 04 43 31 |
| 04 45 50 | J2310+1055 | 22 46 22 | 47.6 | 170.9 | -0.4 | | -5.5 | 18 | 2035 | 04 45 50 |
| 04 46 40 | =2307+106 | 22 47 12 | 47.6 | 171.2 | -0.4 | | -5.3 | 50 | 2041 | 04 45 51 |
| 04 46 40 | NGC7479 | 22 47 12 | 49.1 | 173.1 | -0.3 | | -4.2 | -19 | 2041 | No stop |
| 04 50 40 | --- | 22 51 13 | 49.2 | 174.6 | -0.2 | | -3.3 | 221 | 2072 | 04 46 41 |
| 04 50 40 | J2300+1037 | 22 51 13 | 47.6 | 176.4 | -0.2 | | -2.2 | -20 | 2072 | No stop |
| 04 52 20 | =2257+103 | 22 52 53 | 47.6 | 177.0 | -0.1 | | -1.8 | 80 | 2085 | 04 50 41 |
| 04 53 00 | J2310+1055 | 22 53 33 | 47.8 | 173.5 | -0.3 | | -3.9 | 18 | 2085 | 04 53 00 |
| 04 53 50 | =2307+106 | 22 54 23 | 47.8 | 173.9 | -0.3 | | -3.8 | 50 | 2091 | 04 53 01 |
| 04 53 50 | NGC7479 | 22 54 23 | 49.2 | 175.8 | -0.2 | | -2.6 | -19 | 2091 | No stop |
| 04 57 50 | --- | 22 58 24 | 49.3 | 177.3 | -0.1 | | -1.7 | 221 | 2122 | 04 53 51 |
| 04 57 50 | J2300+1037 | 22 58 24 | 47.6 | 179.0 | -0.0 | | -0.6 | -20 | 2122 | No stop |
| 04 59 30 | =2257+103 | 23 00 04 | 47.6 | 179.6 | -0.0 | | -0.2 | 80 | 2135 | 04 57 51 |
| 05 00 10 | J2310+1055 | 23 00 44 | 47.9 | 176.2 | -0.2 | | -2.3 | 18 | 2135 | 05 00 10 |
| 05 01 00 | =2307+106 | 23 01 34 | 47.9 | 176.5 | -0.2 | | -2.2 | 50 | 2141 | 05 00 11 |
| 05 01 00 | NGC7479 | 23 01 34 | 49.3 | 178.5 | -0.1 | | -0.9 | -19 | 2141 | No stop |
| 05 05 00 | --- | 23 05 35 | 49.3 | 180.0 | -0.0 | | -0.0 | 221 | 2172 | 05 01 01 |
| 05 05 00 | J2300+1037 | 23 05 35 | 47.6 | 181.7 | 0.1 | | 1.0 | -20 | 2172 | No stop |
| 05 06 40 | =2257+103 | 23 07 15 | 47.6 | 182.3 | 0.1 | | 1.4 | 80 | 2185 | 05 05 01 |
| 05 07 20 | J2310+1055 | 23 07 55 | 47.9 | 178.8 | -0.1 | | -0.7 | 18 | 2185 | 05 07 20 |
| 05 08 10 | =2307+106 | 23 08 45 | 47.9 | 179.1 | -0.0 | | -0.5 | 50 | 2191 | 05 07 21 |

Schedule for TORUN (Code Tr ) Page 11

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 05 08 10 | NGC7479 | 23 08 45 | 49.3 | 181.2 | 0.1 | | 0.7 | -19 | 2191 | No stop |
| 05 12 10 | --- | 23 12 46 | 49.3 | 182.7 | 0.1 | | 1.6 | 221 | 2222 | 05 08 11 |
| 05 12 10 | J2300+1037 | 23 12 46 | 47.5 | 184.3 | 0.2 | | 2.6 | -20 | 2222 | No stop |
| 05 13 50 | =2257+103 | 23 14 26 | 47.5 | 184.9 | 0.2 | | 3.0 | 80 | 2235 | 05 12 11 |
| 05 14 30 | J2310+1055 | 23 15 06 | 47.9 | 181.4 | 0.1 | | 0.9 | 18 | 2235 | 05 14 30 |
| 05 15 20 | =2307+106 | 23 15 57 | 47.9 | 181.7 | 0.1 | | 1.1 | 50 | 2241 | 05 14 31 |
| 05 15 20 | NGC7479 | 23 15 57 | 49.3 | 183.8 | 0.2 | | 2.4 | -18 | 2241 | No stop |
| 05 19 20 | --- | 23 19 57 | 49.2 | 185.3 | 0.2 | | 3.3 | 222 | 2272 | 05 15 21 |
| 05 19 20 | J2300+1037 | 23 19 57 | 47.4 | 186.9 | 0.3 | | 4.2 | -20 | 2272 | No stop |
| 05 21 00 | =2257+103 | 23 21 38 | 47.4 | 187.5 | 0.3 | | 4.6 | 80 | 2285 | 05 19 21 |
| 05 21 40 | J2310+1055 | 23 22 18 | 47.8 | 184.1 | 0.2 | | 2.5 | 18 | 2285 | 05 21 40 |
| 05 22 30 | =2307+106 | 23 23 08 | 47.8 | 184.4 | 0.2 | | 2.7 | 50 | 2291 | 05 21 41 |
| 05 22 30 | NGC7479 | 23 23 08 | 49.2 | 186.5 | 0.3 | | 4.0 | -18 | 2291 | No stop |
| 05 26 30 | --- | 23 27 08 | 49.1 | 188.0 | 0.4 | | 4.9 | 222 | 2322 | 05 22 31 |
| 05 26 30 | J2300+1037 | 23 27 08 | 47.3 | 189.5 | 0.4 | | 5.8 | -20 | 2322 | No stop |
| 05 28 10 | =2257+103 | 23 28 49 | 47.2 | 190.1 | 0.5 | | 6.1 | 80 | 2335 | 05 26 31 |
| 05 28 50 | J2310+1055 | 23 29 29 | 47.7 | 186.7 | 0.3 | | 4.1 | 18 | 2335 | 05 28 50 |
| 05 29 40 | =2307+106 | 23 30 19 | 47.7 | 187.0 | 0.3 | | 4.3 | 50 | 2341 | 05 28 51 |
| 05 29 40 | NGC7479 | 23 30 19 | 49.0 | 189.2 | 0.4 | | 5.6 | -19 | 2341 | No stop |
| 05 33 40 | --- | 23 34 20 | 48.9 | 190.7 | 0.5 | | 6.5 | 221 | 2372 | 05 29 41 |
| 05 33 40 | J2300+1037 | 23 34 20 | 47.1 | 192.1 | 0.6 | | 7.3 | -21 | 2372 | No stop |
| 05 35 20 | =2257+103 | 23 36 00 | 47.0 | 192.7 | 0.6 | | 7.7 | 79 | 2385 | 05 33 41 |
| 05 36 00 | J2310+1055 | 23 36 40 | 47.6 | 189.3 | 0.4 | | 5.7 | 18 | 2385 | 05 36 00 |
| 05 36 50 | =2307+106 | 23 37 30 | 47.6 | 189.6 | 0.4 | | 5.8 | 50 | 2391 | 05 36 01 |
| 05 36 50 | NGC7479 | 23 37 30 | 48.8 | 191.8 | 0.5 | | 7.3 | -19 | 2391 | No stop |
| 05 40 50 | --- | 23 41 31 | 48.7 | 193.3 | 0.6 | | 8.1 | 221 | 2422 | 05 36 51 |
| 05 40 50 | J2300+1037 | 23 41 31 | 46.8 | 194.6 | 0.7 | | 8.9 | -21 | 2422 | No stop |
| 05 42 30 | =2257+103 | 23 43 11 | 46.8 | 195.2 | 0.7 | | 9.2 | 79 | 2435 | 05 40 51 |
| 05 43 10 | J2310+1055 | 23 43 51 | 47.4 | 191.9 | 0.5 | | 7.2 | 18 | 2435 | 05 43 10 |
| 05 44 00 | =2307+106 | 23 44 41 | 47.4 | 192.2 | 0.6 | | 7.4 | 50 | 2441 | 05 43 11 |

Schedule for TORUN (Code Tr ) Page 12

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 05 44 00 | NGC7479 | 23 44 41 | 48.6 | 194.5 | 0.7 | | 8.8 | -19 | 2441 | No stop |
| 05 48 00 | --- | 23 48 42 | 48.4 | 195.9 | 0.7 | | 9.7 | 221 | 2472 | 05 44 01 |
| 05 48 00 | J2300+1037 | 23 48 42 | 46.5 | 197.2 | 0.8 | | 10.4 | -21 | 2472 | No stop |
| 05 49 40 | =2257+103 | 23 50 22 | 46.5 | 197.7 | 0.8 | | 10.7 | 79 | 2485 | 05 48 01 |
| 05 50 20 | J2310+1055 | 23 51 02 | 47.2 | 194.5 | 0.7 | | 8.8 | 18 | 2485 | 05 50 20 |
| 05 51 10 | =2307+106 | 23 51 52 | 47.1 | 194.8 | 0.7 | | 9.0 | 50 | 2491 | 05 50 21 |
| 05 51 10 | NGC7479 | 23 51 52 | 48.3 | 197.1 | 0.8 | | 10.4 | -19 | 2491 | No stop |
| 05 55 10 | --- | 23 55 53 | 48.1 | 198.5 | 0.8 | | 11.3 | 221 | 2522 | 05 51 11 |
| 05 55 10 | J2300+1037 | 23 55 53 | 46.2 | 199.7 | 0.9 | | 11.9 | -21 | 2522 | No stop |
| 05 56 50 | =2257+103 | 23 57 33 | 46.1 | 200.2 | 0.9 | | 12.2 | 79 | 2535 | 05 55 11 |
| 05 57 30 | J2310+1055 | 23 58 13 | 46.9 | 197.0 | 0.8 | | 10.3 | 19 | 2535 | 05 57 30 |
| 05 58 20 | =2307+106 | 23 59 04 | 46.8 | 197.3 | 0.8 | | 10.5 | 50 | 2541 | 05 57 31 |
| 05 58 20 | NGC7479 | 23 59 04 | 47.9 | 199.7 | 0.9 | | 11.9 | -19 | 2541 | No stop |
| 06 02 20 | --- | 00 03 04 | 47.7 | 201.1 | 1.0 | | 12.8 | 221 | 2572 | 05 58 21 |
| 06 02 20 | J2300+1037 | 00 03 04 | 45.8 | 202.1 | 1.0 | | 13.3 | -21 | 2572 | No stop |
| 06 04 00 | =2257+103 | 00 04 45 | 45.7 | 202.7 | 1.1 | | 13.7 | 79 | 2585 | 06 02 21 |
| 06 04 40 | J2310+1055 | 00 05 25 | 46.5 | 199.5 | 0.9 | | 11.8 | 19 | 2585 | 06 04 40 |
| 06 05 30 | =2307+106 | 00 06 15 | 46.5 | 199.8 | 0.9 | | 12.0 | 50 | 2591 | 06 04 41 |
| 06 05 30 | NGC7479 | 00 06 15 | 47.5 | 202.2 | 1.0 | | 13.4 | -19 | 2591 | No stop |
| 06 09 30 | --- | 00 10 15 | 47.3 | 203.6 | 1.1 | | 14.3 | 221 | 2622 | 06 05 31 |
| 06 09 30 | J2300+1037 | 00 10 15 | 45.4 | 204.6 | 1.2 | | 14.7 | -21 | 2622 | No stop |
| 06 11 10 | =2257+103 | 00 11 56 | 45.3 | 205.2 | 1.2 | | 15.1 | 79 | 2635 | 06 09 31 |
| 06 11 50 | J2310+1055 | 00 12 36 | 46.1 | 202.0 | 1.0 | | 13.3 | 19 | 2635 | 06 11 50 |
| 06 12 40 | =2307+106 | 00 13 26 | 46.1 | 202.3 | 1.0 | | 13.4 | 50 | 2641 | 06 11 51 |
| 06 12 40 | NGC7479 | 00 13 26 | 47.1 | 204.7 | 1.1 | | 14.9 | -19 | 2641 | No stop |
| 06 16 40 | --- | 00 17 27 | 46.9 | 206.1 | 1.2 | | 15.7 | 221 | 2672 | 06 12 41 |
| 06 16 40 | J2300+1037 | 00 17 27 | 44.9 | 207.0 | 1.3 | | 16.1 | -21 | 2672 | No stop |
| 06 18 20 | =2257+103 | 00 19 07 | 44.8 | 207.6 | 1.3 | | 16.4 | 79 | 2685 | 06 16 41 |
| 06 19 00 | J2310+1055 | 00 19 47 | 45.7 | 204.5 | 1.1 | | 14.7 | 19 | 2685 | 06 19 00 |
| 06 19 50 | =2307+106 | 00 20 37 | 45.7 | 204.8 | 1.2 | | 14.8 | 50 | 2691 | 06 19 01 |

Schedule for TORUN (Code Tr ) Page 13

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 06 24 50 | 3C454.3 | 00 25 38 | 49.0 | 214.5 | 1.5 | | 20.7 | 269 | 2691 | 06 24 50 |
| 06 27 50 | --- | 00 28 38 | 48.8 | 215.5 | 1.6 | | 21.3 | 180 | 2714 | 06 24 51 |
| 06 33 05 | J2310+1055 | 00 33 54 | 44.8 | 209.2 | 1.4 | | 17.4 | 284 | 2714 | 06 33 05 |
| 06 33 55 | =2307+106 | 00 35 00 | 44.7 | 209.6 | 1.4 | | 17.6 | 50 | 2721 | 06 33 06 |
| 06 33 55 | NGC7479 | 00 34 44 | 45.6 | 211.9 | 1.5 | | 19.0 | -19 | 2721 | No stop |
| 06 37 55 | --- | 00 38 45 | 45.3 | 213.2 | 1.6 | | 19.7 | 221 | 2751 | 06 33 56 |
| 06 37 55 | J2300+1037 | 00 38 45 | 43.3 | 213.9 | 1.6 | | 20.0 | -21 | 2751 | No stop |
| 06 39 35 | =2257+103 | 00 40 25 | 43.2 | 214.5 | 1.7 | | 20.2 | 79 | 2764 | 06 37 56 |
| 06 40 15 | J2310+1055 | 00 41 06 | 44.2 | 211.6 | 1.5 | | 18.7 | 19 | 2764 | 06 40 15 |
| 06 41 05 | =2307+106 | 00 41 56 | 44.1 | 211.8 | 1.5 | | 18.8 | 50 | 2771 | 06 40 16 |
| 06 41 05 | NGC7479 | 00 41 56 | 45.0 | 214.3 | 1.6 | | 20.3 | -19 | 2771 | No stop |
| 06 45 05 | --- | 00 45 56 | 44.7 | 215.6 | 1.7 | | 21.0 | 221 | 2801 | 06 41 06 |
| 06 45 05 | J2300+1037 | 00 45 56 | 42.7 | 216.2 | 1.7 | | 21.2 | -21 | 2801 | No stop |
| 06 46 45 | =2257+103 | 00 47 37 | 42.5 | 216.7 | 1.8 | | 21.4 | 79 | 2814 | 06 45 06 |
| 06 47 25 | J2310+1055 | 00 48 17 | 43.6 | 213.9 | 1.6 | | 19.9 | 20 | 2814 | 06 47 25 |
| 06 48 15 | =2307+106 | 00 49 07 | 43.6 | 214.1 | 1.6 | | 20.1 | 50 | 2821 | 06 47 26 |
| 06 48 15 | NGC7479 | 00 49 07 | 44.4 | 216.6 | 1.7 | | 21.5 | -19 | 2821 | No stop |
| 06 52 15 | --- | 00 53 07 | 44.0 | 217.9 | 1.8 | | 22.2 | 221 | 2851 | 06 48 16 |
| 06 52 15 | J2300+1037 | 00 53 07 | 42.0 | 218.4 | 1.9 | | 22.3 | -21 | 2851 | No stop |
| 06 53 55 | =2257+103 | 00 54 48 | 41.9 | 218.9 | 1.9 | | 22.6 | 79 | 2864 | 06 52 16 |
| 06 54 35 | J2310+1055 | 00 55 28 | 43.0 | 216.1 | 1.7 | | 21.1 | 20 | 2864 | 06 54 35 |
| 06 55 25 | =2307+106 | 00 56 18 | 42.9 | 216.4 | 1.8 | | 21.3 | 50 | 2871 | 06 54 36 |
| 06 55 25 | NGC7479 | 00 56 18 | 43.7 | 218.9 | 1.8 | | 22.7 | -19 | 2871 | No stop |
| 06 59 25 | --- | 01 00 19 | 43.3 | 220.1 | 1.9 | | 23.3 | 221 | 2901 | 06 55 26 |
| 06 59 25 | J2300+1037 | 01 00 19 | 41.3 | 220.6 | 2.0 | | 23.4 | -21 | 2901 | No stop |
| 07 01 05 | =2257+103 | 01 01 59 | 41.2 | 221.1 | 2.0 | | 23.7 | 79 | 2914 | 06 59 26 |
| 07 01 45 | J2310+1055 | 01 02 39 | 42.4 | 218.4 | 1.9 | | 22.3 | 20 | 2914 | 07 01 45 |
| 07 02 35 | =2307+106 | 01 03 29 | 42.3 | 218.6 | 1.9 | | 22.5 | 50 | 2921 | 07 01 46 |
| 07 02 35 | NGC7479 | 01 03 29 | 43.0 | 221.1 | 2.0 | | 23.8 | -19 | 2921 | No stop |
| 07 06 35 | --- | 01 07 30 | 42.6 | 222.3 | 2.0 | | 24.4 | 221 | 2951 | 07 02 36 |

Schedule for TORUN (Code Tr ) Page 14

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 07 06 35 | J2300+1037 | 01 07 30 | 40.6 | 222.7 | 2.1 | | 24.5 | -21 | 2951 | No stop |
| 07 08 15 | =2257+103 | 01 09 10 | 40.4 | 223.2 | 2.1 | | 24.7 | 79 | 2964 | 07 06 36 |
| 07 08 55 | J2310+1055 | 01 09 50 | 41.7 | 220.6 | 2.0 | | 23.4 | 20 | 2964 | 07 08 55 |
| 07 09 45 | =2307+106 | 01 10 40 | 41.6 | 220.8 | 2.0 | | 23.6 | 50 | 2971 | 07 08 56 |
| 07 09 45 | NGC7479 | 01 10 40 | 42.3 | 223.2 | 2.1 | | 24.9 | -19 | 2971 | No stop |
| 07 13 45 | --- | 01 14 41 | 41.9 | 224.4 | 2.2 | | 25.5 | 221 | 3001 | 07 09 46 |
| 07 13 45 | J2300+1037 | 01 14 41 | 39.9 | 224.8 | 2.2 | | 25.5 | -22 | 3001 | No stop |
| 07 15 25 | =2257+103 | 01 16 21 | 39.7 | 225.3 | 2.3 | | 25.8 | 78 | 3014 | 07 13 46 |
| 07 16 05 | J2310+1055 | 01 17 01 | 41.0 | 222.7 | 2.1 | | 24.5 | 20 | 3014 | 07 16 05 |
| 07 16 55 | =2307+106 | 01 17 52 | 40.9 | 223.0 | 2.1 | | 24.6 | 50 | 3021 | 07 16 06 |
| 07 16 55 | NGC7479 | 01 17 52 | 41.6 | 225.4 | 2.2 | | 25.9 | -19 | 3021 | No stop |
| 07 20 55 | --- | 01 21 52 | 41.1 | 226.5 | 2.3 | | 26.5 | 221 | 3051 | 07 16 56 |
| 07 20 55 | J2300+1037 | 01 21 52 | 39.1 | 226.9 | 2.3 | | 26.5 | -22 | 3051 | No stop |
| 07 22 35 | =2257+103 | 01 23 32 | 38.9 | 227.4 | 2.4 | | 26.7 | 78 | 3064 | 07 20 56 |
| 07 23 15 | J2310+1055 | 01 24 13 | 40.2 | 224.8 | 2.2 | | 25.5 | 20 | 3064 | 07 23 15 |
| 07 24 05 | =2307+106 | 01 25 03 | 40.1 | 225.1 | 2.2 | | 25.7 | 50 | 3071 | 07 23 16 |
| 07 24 05 | NGC7479 | 01 25 03 | 40.8 | 227.5 | 2.3 | | 26.9 | -19 | 3071 | No stop |
| 07 28 05 | --- | 01 29 03 | 40.3 | 228.6 | 2.4 | | 27.5 | 221 | 3101 | 07 24 06 |
| 07 28 05 | J2300+1037 | 01 29 03 | 38.3 | 228.9 | 2.5 | | 27.4 | -22 | 3101 | No stop |
| 07 29 45 | =2257+103 | 01 30 44 | 38.1 | 229.4 | 2.5 | | 27.6 | 78 | 3114 | 07 28 06 |
| 07 30 25 | J2310+1055 | 01 31 24 | 39.4 | 226.9 | 2.3 | | 26.5 | 21 | 3114 | 07 30 25 |
| 07 31 15 | =2307+106 | 01 32 14 | 39.3 | 227.1 | 2.4 | | 26.6 | 50 | 3121 | 07 30 26 |
| 07 31 15 | NGC7479 | 01 32 14 | 40.0 | 229.5 | 2.4 | | 27.9 | -19 | 3121 | No stop |
| 07 35 15 | --- | 01 36 15 | 39.5 | 230.6 | 2.5 | | 28.4 | 221 | 3151 | 07 31 16 |
| 07 35 15 | J2300+1037 | 01 36 15 | 37.5 | 230.9 | 2.6 | | 28.3 | -22 | 3151 | No stop |
| 07 36 55 | =2257+103 | 01 37 55 | 37.3 | 231.3 | 2.6 | | 28.5 | 78 | 3164 | 07 35 16 |
| 07 37 35 | J2310+1055 | 01 38 35 | 38.6 | 228.9 | 2.5 | | 27.4 | 21 | 3164 | 07 37 35 |
| 07 38 25 | =2307+106 | 01 39 25 | 38.5 | 229.1 | 2.5 | | 27.6 | 50 | 3171 | 07 37 36 |
| 07 38 25 | NGC7479 | 01 39 25 | 39.1 | 231.5 | 2.6 | | 28.8 | -19 | 3171 | No stop |
| 07 42 25 | --- | 01 43 26 | 38.7 | 232.6 | 2.6 | | 29.2 | 221 | 3201 | 07 38 26 |

Schedule for TORUN (Code Tr ) Page 15

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 07 42 25 | J2300+1037 | 01 43 26 | 36.6 | 232.8 | 2.7 | | 29.1 | -22 | 3201 | No stop |
| 07 44 05 | =2257+103 | 01 45 06 | 36.4 | 233.3 | 2.7 | | 29.3 | 78 | 3214 | 07 42 26 |
| 07 44 45 | J2310+1055 | 01 45 46 | 37.8 | 230.9 | 2.6 | | 28.3 | 21 | 3214 | 07 44 45 |
| 07 45 35 | =2307+106 | 01 46 36 | 37.7 | 231.1 | 2.6 | | 28.4 | 50 | 3221 | 07 44 46 |
| 07 45 35 | NGC7479 | 01 46 36 | 38.3 | 233.5 | 2.7 | | 29.6 | -19 | 3221 | No stop |
| 07 49 35 | --- | 01 50 37 | 37.8 | 234.5 | 2.7 | | 30.1 | 221 | 3251 | 07 45 36 |
| 07 49 35 | J2300+1037 | 01 50 37 | 35.8 | 234.7 | 2.8 | | 29.9 | -22 | 3251 | No stop |
| 07 51 15 | =2257+103 | 01 52 17 | 35.6 | 235.2 | 2.9 | | 30.1 | 78 | 3264 | 07 49 36 |
| 07 51 55 | J2310+1055 | 01 52 57 | 37.0 | 232.8 | 2.7 | | 29.2 | 21 | 3264 | 07 51 55 |
| 07 52 45 | =2307+106 | 01 53 47 | 36.9 | 233.0 | 2.7 | | 29.3 | 50 | 3271 | 07 51 56 |
| 07 52 45 | NGC7479 | 01 53 47 | 37.4 | 235.4 | 2.8 | | 30.4 | -19 | 3271 | No stop |
| 07 56 45 | --- | 01 57 48 | 36.9 | 236.5 | 2.9 | | 30.8 | 221 | 3301 | 07 52 46 |
| 07 56 45 | J2300+1037 | 01 57 48 | 34.9 | 236.6 | 2.9 | | 30.7 | -22 | 3301 | No stop |
| 07 58 25 | =2257+103 | 01 59 28 | 34.7 | 237.0 | 3.0 | | 30.8 | 78 | 3314 | 07 56 46 |
| 07 59 05 | J2310+1055 | 02 00 08 | 36.1 | 234.7 | 2.8 | | 30.0 | 21 | 3314 | 07 59 05 |
| 07 59 55 | =2307+106 | 02 00 59 | 36.0 | 235.0 | 2.8 | | 30.1 | 50 | 3321 | 07 59 06 |
| 07 59 55 | NGC7479 | 02 00 59 | 36.5 | 237.3 | 2.9 | | 31.1 | -19 | 3321 | No stop |
| 08 03 55 | --- | 02 04 59 | 36.0 | 238.3 | 3.0 | | 31.5 | 221 | 3351 | 07 59 56 |
| 08 03 55 | J2300+1037 | 02 04 59 | 34.0 | 238.4 | 3.1 | | 31.4 | -22 | 3351 | No stop |
| 08 05 35 | =2257+103 | 02 06 40 | 33.7 | 238.8 | 3.1 | | 31.5 | 78 | 3364 | 08 03 56 |
| 08 06 15 | J2310+1055 | 02 07 20 | 35.2 | 236.6 | 2.9 | | 30.7 | 21 | 3364 | 08 06 15 |
| 08 07 05 | =2307+106 | 02 08 10 | 35.1 | 236.8 | 2.9 | | 30.8 | 50 | 3371 | 08 06 16 |
| 08 07 05 | NGC7479 | 02 08 10 | 35.6 | 239.1 | 3.0 | | 31.9 | -19 | 3371 | No stop |
| 08 11 05 | --- | 02 12 10 | 35.1 | 240.1 | 3.1 | | 32.2 | 221 | 3401 | 08 07 06 |
| 08 11 05 | J2300+1037 | 02 12 10 | 33.0 | 240.2 | 3.2 | | 32.0 | -22 | 3401 | No stop |
| 08 12 45 | =2257+103 | 02 13 51 | 32.8 | 240.6 | 3.2 | | 32.2 | 78 | 3414 | 08 11 06 |
| 08 13 25 | J2310+1055 | 02 14 31 | 34.3 | 238.4 | 3.1 | | 31.4 | 21 | 3414 | 08 13 25 |
| 08 14 15 | =2307+106 | 02 15 21 | 34.2 | 238.7 | 3.1 | | 31.5 | 50 | 3421 | 08 13 26 |
| 08 19 15 | 3C454.3 | 02 20 22 | 35.7 | 247.5 | 3.4 | | 35.3 | 270 | 3421 | 08 19 15 |
| 08 22 15 | --- | 02 23 22 | 35.2 | 248.2 | 3.5 | | 35.5 | 180 | 3444 | 08 19 16 |

Schedule for TORUN (Code Tr ) Page 16

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 08 27 30 | J2310+1055 | 02 28 38 | 32.4 | 242.0 | 3.3 | | 32.7 | 285 | 3444 | 08 27 30 |
| 08 28 20 | =2307+106 | 02 29 43 | 32.3 | 242.2 | 3.3 | | 32.8 | 50 | 3450 | 08 27 31 |
| 08 28 20 | NGC7479 | 02 29 28 | 32.8 | 244.4 | 3.4 | | 33.7 | -18 | 3450 | No stop |
| 08 32 20 | --- | 02 33 29 | 32.2 | 245.4 | 3.5 | | 34.0 | 222 | 3481 | 08 28 21 |
| 08 32 20 | J2300+1037 | 02 33 29 | 30.2 | 245.4 | 3.5 | | 33.8 | -22 | 3481 | No stop |
| 08 34 00 | =2257+103 | 02 35 09 | 30.0 | 245.8 | 3.6 | | 33.9 | 78 | 3494 | 08 32 21 |
| 08 34 40 | J2310+1055 | 02 35 49 | 31.5 | 243.7 | 3.4 | | 33.3 | 20 | 3494 | 08 34 40 |
| 08 35 30 | =2307+106 | 02 36 39 | 31.4 | 243.9 | 3.4 | | 33.3 | 50 | 3500 | 08 34 41 |
| 08 35 30 | NGC7479 | 02 36 39 | 31.8 | 246.1 | 3.5 | | 34.2 | -19 | 3500 | No stop |
| 08 39 30 | --- | 02 40 40 | 31.2 | 247.1 | 3.6 | | 34.5 | 221 | 3531 | 08 35 31 |
| 08 39 30 | J2300+1037 | 02 40 40 | 29.2 | 247.1 | 3.7 | | 34.3 | -22 | 3531 | No stop |
| 08 41 10 | =2257+103 | 02 42 20 | 29.0 | 247.5 | 3.7 | | 34.4 | 78 | 3544 | 08 39 31 |
| 08 41 50 | J2310+1055 | 02 43 00 | 30.5 | 245.4 | 3.5 | | 33.8 | 20 | 3544 | 08 41 50 |
| 08 42 40 | =2307+106 | 02 43 51 | 30.4 | 245.6 | 3.5 | | 33.9 | 50 | 3550 | 08 41 51 |
| 08 42 40 | NGC7479 | 02 43 51 | 30.8 | 247.8 | 3.6 | | 34.7 | -18 | 3550 | No stop |
| 08 46 40 | --- | 02 47 51 | 30.2 | 248.8 | 3.7 | | 35.0 | 222 | 3581 | 08 42 41 |
| 08 46 40 | J2300+1037 | 02 47 51 | 28.2 | 248.7 | 3.8 | | 34.7 | -22 | 3581 | No stop |
| 08 48 20 | =2257+103 | 02 49 32 | 28.0 | 249.1 | 3.8 | | 34.8 | 78 | 3594 | 08 46 41 |
| 08 49 00 | J2310+1055 | 02 50 12 | 29.5 | 247.1 | 3.6 | | 34.3 | 20 | 3594 | 08 49 00 |
| 08 49 50 | =2307+106 | 02 51 02 | 29.4 | 247.3 | 3.7 | | 34.4 | 50 | 3600 | 08 49 01 |
| 08 49 50 | NGC7479 | 02 51 02 | 29.8 | 249.5 | 3.8 | | 35.2 | -18 | 3600 | No stop |
| 08 53 50 | --- | 02 55 02 | 29.2 | 250.4 | 3.8 | | 35.4 | 222 | 3631 | 08 49 51 |
| 08 53 50 | J2300+1037 | 02 55 02 | 27.2 | 250.4 | 3.9 | | 35.1 | -22 | 3631 | No stop |
| 08 55 30 | =2257+103 | 02 56 43 | 26.9 | 250.7 | 3.9 | | 35.2 | 78 | 3644 | 08 53 51 |
| 08 56 10 | J2310+1055 | 02 57 23 | 28.5 | 248.8 | 3.8 | | 34.8 | 20 | 3644 | 08 56 10 |
| 08 57 00 | =2307+106 | 02 58 13 | 28.4 | 249.0 | 3.8 | | 34.8 | 50 | 3650 | 08 56 11 |
| 08 57 00 | NGC7479 | 02 58 13 | 28.8 | 251.1 | 3.9 | | 35.6 | -18 | 3650 | No stop |
| 09 01 00 | --- | 03 02 14 | 28.2 | 252.0 | 3.9 | | 35.8 | 222 | 3681 | 08 57 01 |
| 09 01 00 | J2300+1037 | 03 02 14 | 26.2 | 252.0 | 4.0 | | 35.5 | -22 | 3681 | No stop |
| 09 02 40 | =2257+103 | 03 03 54 | 25.9 | 252.3 | 4.0 | | 35.6 | 78 | 3694 | 09 01 01 |
| 09 03 20 | J2310+1055 | 03 04 34 | 27.5 | 250.4 | 3.9 | | 35.2 | 20 | 3694 | 09 03 20 |
| 09 04 10 | =2307+106 | 03 05 24 | 27.4 | 250.6 | 3.9 | | 35.2 | 50 | 3700 | 09 03 21 |

Schedule for TORUN (Code Tr ) Page 17

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 09 04 10 | NGC7479 | 03 05 24 | 27.7 | 252.8 | 4.0 | | 36.0 | -18 | 3700 | No stop |
| 09 08 10 | --- | 03 09 25 | 27.2 | 253.6 | 4.1 | | 36.2 | 222 | 3731 | 09 04 11 |
| 09 08 10 | J2300+1037 | 03 09 25 | 25.1 | 253.6 | 4.1 | | 35.9 | -22 | 3731 | No stop |
| 09 09 50 | =2257+103 | 03 11 05 | 24.9 | 253.9 | 4.2 | | 36.0 | 78 | 3744 | 09 08 11 |
| 09 10 30 | J2310+1055 | 03 11 45 | 26.5 | 252.0 | 4.0 | | 35.6 | 20 | 3744 | 09 10 30 |
| 09 11 20 | =2307+106 | 03 12 35 | 26.4 | 252.2 | 4.0 | | 35.6 | 50 | 3750 | 09 10 31 |
| 09 11 20 | NGC7479 | 03 12 35 | 26.7 | 254.4 | 4.1 | | 36.3 | -18 | 3750 | No stop |
| 09 15 20 | --- | 03 16 36 | 26.1 | 255.2 | 4.2 | | 36.5 | 222 | 3781 | 09 11 21 |
| 09 15 20 | J2300+1037 | 03 16 36 | 24.1 | 255.1 | 4.3 | | 36.2 | -22 | 3781 | No stop |
| 09 17 00 | =2257+103 | 03 18 16 | 23.9 | 255.5 | 4.3 | | 36.3 | 78 | 3794 | 09 15 21 |
| 09 17 40 | J2310+1055 | 03 18 56 | 25.5 | 253.6 | 4.1 | | 35.9 | 20 | 3794 | 09 17 40 |
| 09 18 30 | =2307+106 | 03 19 47 | 25.3 | 253.8 | 4.1 | | 36.0 | 50 | 3800 | 09 17 41 |
| 09 18 30 | NGC7479 | 03 19 47 | 25.7 | 255.9 | 4.2 | | 36.6 | -18 | 3800 | No stop |
| 09 22 30 | --- | 03 23 47 | 25.1 | 256.8 | 4.3 | | 36.8 | 222 | 3831 | 09 18 31 |
| 09 22 30 | J2300+1037 | 03 23 47 | 23.0 | 256.7 | 4.4 | | 36.5 | -22 | 3831 | No stop |
| 09 24 10 | =2257+103 | 03 25 27 | 22.8 | 257.0 | 4.4 | | 36.6 | 78 | 3844 | 09 22 31 |
| 09 24 50 | J2310+1055 | 03 26 08 | 24.4 | 255.2 | 4.2 | | 36.3 | 20 | 3844 | 09 24 50 |
| 09 25 40 | =2307+106 | 03 26 58 | 24.3 | 255.4 | 4.3 | | 36.3 | 50 | 3850 | 09 24 51 |
| 09 25 40 | NGC7479 | 03 26 58 | 24.6 | 257.5 | 4.4 | | 36.9 | -18 | 3850 | No stop |
| 09 29 40 | --- | 03 30 58 | 24.0 | 258.3 | 4.4 | | 37.0 | 222 | 3881 | 09 25 41 |
| 09 29 40 | J2300+1037 | 03 30 58 | 22.0 | 258.2 | 4.5 | | 36.7 | -22 | 3881 | No stop |
| 09 31 20 | =2257+103 | 03 32 39 | 21.7 | 258.6 | 4.5 | | 36.8 | 78 | 3894 | 09 29 41 |
| 09 32 00 | J2310+1055 | 03 33 19 | 23.4 | 256.7 | 4.4 | | 36.5 | 20 | 3894 | 09 32 00 |
| 09 32 50 | =2307+106 | 03 34 09 | 23.3 | 256.9 | 4.4 | | 36.6 | 50 | 3900 | 09 32 01 |
| 09 32 50 | NGC7479 | 03 34 09 | 23.6 | 259.0 | 4.5 | | 37.1 | -18 | 3900 | No stop |
| 09 36 50 | --- | 03 38 10 | 23.0 | 259.9 | 4.5 | | 37.2 | 222 | 3931 | 09 32 51 |
| 09 36 50 | J2300+1037 | 03 38 10 | 20.9 | 259.7 | 4.6 | | 37.0 | -22 | 3931 | No stop |
| 09 38 30 | =2257+103 | 03 39 50 | 20.7 | 260.1 | 4.6 | | 37.0 | 78 | 3944 | 09 36 51 |
| 09 39 10 | J2310+1055 | 03 40 30 | 22.3 | 258.3 | 4.5 | | 36.8 | 20 | 3944 | 09 39 10 |
| 09 40 00 | =2307+106 | 03 41 20 | 22.2 | 258.5 | 4.5 | | 36.8 | 50 | 3950 | 09 39 11 |
| 09 40 00 | NGC7479 | 03 41 20 | 22.5 | 260.5 | 4.6 | | 37.3 | -18 | 3950 | No stop |
| 09 44 00 | --- | 03 45 21 | 21.9 | 261.4 | 4.7 | | 37.4 | 222 | 3981 | 09 40 01 |

Schedule for TORUN (Code Tr ) Page 18

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 09 44 00 | J2300+1037 | 03 45 21 | 19.9 | 261.2 | 4.7 | | 37.2 | -22 | 3981 | No stop |
| 09 45 40 | =2257+103 | 03 47 01 | 19.6 | 261.6 | 4.8 | | 37.2 | 78 | 3994 | 09 44 01 |
| 09 46 20 | J2310+1055 | 03 47 41 | 21.3 | 259.8 | 4.6 | | 37.0 | 20 | 3994 | 09 46 20 |
| 09 47 10 | =2307+106 | 03 48 31 | 21.1 | 260.0 | 4.6 | | 37.0 | 50 | 4000 | 09 46 21 |
| 09 47 10 | NGC7479 | 03 48 31 | 21.4 | 262.0 | 4.7 | | 37.5 | -18 | 4000 | No stop |
| 09 51 10 | --- | 03 52 32 | 20.8 | 262.9 | 4.8 | | 37.6 | 222 | 4031 | 09 47 11 |
| 09 51 10 | J2300+1037 | 03 52 32 | 18.8 | 262.7 | 4.9 | | 37.3 | -22 | 4031 | No stop |
| 09 52 50 | =2257+103 | 03 54 12 | 18.6 | 263.1 | 4.9 | | 37.3 | 78 | 4044 | 09 51 11 |
| 09 53 30 | J2310+1055 | 03 54 52 | 20.2 | 261.3 | 4.7 | | 37.2 | 20 | 4044 | 09 53 30 |
| 09 54 20 | =2307+106 | 03 55 42 | 20.1 | 261.5 | 4.7 | | 37.2 | 50 | 4050 | 09 53 31 |
| 09 54 20 | NGC7479 | 03 55 42 | 20.4 | 263.5 | 4.8 | | 37.7 | -18 | 4050 | No stop |
| 09 58 20 | --- | 03 59 43 | 19.8 | 264.3 | 4.9 | | 37.7 | 222 | 4081 | 09 54 21 |
| 09 58 20 | J2300+1037 | 03 59 43 | 17.7 | 264.2 | 5.0 | | 37.4 | -22 | 4081 | No stop |
| 10 00 00 | =2257+103 | 04 01 23 | 17.5 | 264.5 | 5.0 | | 37.5 | 78 | 4094 | 09 58 21 |
| 10 00 40 | J2310+1055 | 04 02 03 | 19.1 | 262.8 | 4.8 | | 37.4 | 20 | 4094 | 10 00 40 |
| 10 01 30 | =2307+106 | 04 02 54 | 19.0 | 263.0 | 4.9 | | 37.4 | 50 | 4100 | 10 00 41 |
| 10 01 30 | NGC7479 | 04 02 54 | 19.3 | 265.0 | 5.0 | | 37.8 | -18 | 4100 | No stop |
| 10 05 30 | --- | 04 06 54 | 18.7 | 265.8 | 5.0 | | 37.8 | 222 | 4131 | 10 01 31 |
| 10 05 30 | J2300+1037 | 04 06 54 | 16.7 | 265.7 | 5.1 | | 37.5 | -22 | 4131 | No stop |
| 10 07 10 | =2257+103 | 04 08 35 | 16.4 | 266.0 | 5.1 | | 37.6 | 78 | 4144 | 10 05 31 |
| 10 07 50 | J2310+1055 | 04 09 15 | 18.1 | 264.3 | 5.0 | | 37.5 | 20 | 4144 | 10 07 50 |
| 10 08 40 | =2307+106 | 04 10 05 | 17.9 | 264.4 | 5.0 | | 37.5 | 50 | 4150 | 10 07 51 |
| 10 13 40 | 3C454.3 | 04 15 06 | 18.8 | 272.2 | 5.3 | | 38.7 | 271 | 4150 | 10 13 40 |
| 10 16 40 | --- | 04 18 06 | 18.4 | 272.8 | 5.4 | | 38.7 | 180 | 4173 | 10 13 41 |
| 10 21 55 | J2310+1055 | 04 23 22 | 15.9 | 267.1 | 5.2 | | 37.7 | 287 | 4173 | 10 21 55 |
| 10 22 45 | =2307+106 | 04 24 27 | 15.8 | 267.4 | 5.2 | | 37.7 | 50 | 4179 | 10 21 56 |
| 10 22 45 | NGC7479 | 04 24 12 | 16.1 | 269.3 | 5.3 | | 37.9 | -18 | 4179 | No stop |
| 10 26 45 | --- | 04 28 13 | 15.5 | 270.1 | 5.4 | | 37.9 | 222 | 4210 | 10 22 46 |
| 10 26 45 | J2300+1037 | 04 28 13 | 13.5 | 270.0 | 5.5 | | 37.7 | -22 | 4210 | No stop |
| 10 28 25 | =2257+103 | 04 29 53 | 13.2 | 270.3 | 5.5 | | 37.7 | 78 | 4223 | 10 26 46 |
| 10 29 05 | J2310+1055 | 04 30 33 | 14.9 | 268.6 | 5.3 | | 37.7 | 20 | 4223 | 10 29 05 |
| 10 29 55 | =2307+106 | 04 31 23 | 14.7 | 268.8 | 5.3 | | 37.7 | 50 | 4229 | 10 29 06 |

Schedule for TORUN (Code Tr ) Page 19

Phase-reference VLBI on NGC7479 at 18cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 10 29 55 | NGC7479 | 04 31 23 | 15.0 | 270.7 | 5.4 | | 37.9 | -18 | 4229 | No stop |
| 10 33 55 | --- | 04 35 24 | 14.4 | 271.5 | 5.5 | | 37.9 | 222 | 4260 | 10 29 56 |
| 10 33 55 | J2300+1037 | 04 35 24 | 12.4 | 271.4 | 5.6 | | 37.7 | -22 | 4260 | No stop |
| 10 35 35 | =2257+103 | 04 37 04 | 12.1 | 271.7 | 5.6 | | 37.7 | 78 | 4273 | 10 33 56 |
| 10 36 15 | J2310+1055 | 04 37 44 | 13.8 | 270.0 | 5.4 | | 37.7 | 20 | 4273 | 10 36 15 |
| 10 37 05 | =2307+106 | 04 38 34 | 13.7 | 270.2 | 5.5 | | 37.7 | 50 | 4279 | 10 36 16 |
| 10 37 05 | NGC7479 | 04 38 34 | 13.9 | 272.2 | 5.5 | | 37.9 | -18 | 4279 | No stop |
| 10 41 05 | --- | 04 42 35 | 13.3 | 273.0 | 5.6 | | 37.9 | 222 | 4310 | 10 37 06 |
| 10 41 05 | J2300+1037 | 04 42 35 | 11.3 | 272.8 | 5.7 | | 37.6 | -22 | 4310 | No stop |
| 10 42 45 | =2257+103 | 04 44 15 | 11.1 | 273.2 | 5.7 | | 37.6 | 78 | 4323 | 10 41 06 |
| 10 43 25 | J2310+1055 | 04 44 55 | 12.7 | 271.5 | 5.6 | | 37.7 | 20 | 4323 | 10 43 25 |
| 10 44 15 | =2307+106 | 04 45 46 | 12.6 | 271.6 | 5.6 | | 37.7 | 50 | 4329 | 10 43 26 |
| 10 44 15 | NGC7479 | 04 45 46 | 12.9 | 273.6 | 5.7 | | 37.9 | -18 | 4329 | No stop |
| 10 48 15 | --- | 04 49 46 | 12.3 | 274.4 | 5.7 | | 37.8 | 222 | 4360 | 10 44 16 |
| 10 48 15 | J2300+1037 | 04 49 46 | 10.2 | 274.3 | 5.8 | | 37.5 | -22 | 4360 | No stop |
| 10 49 55 | =2257+103 | 04 51 27 | 10.0 | 274.6 | 5.8 | | 37.5 | 78 | 4373 | 10 48 16 |
| 10 50 35 | J2310+1055 | 04 52 07 | 11.6 | 272.9 | 5.7 | | 37.7 | 20 | 4373 | 10 50 35 |
| 10 51 25 | =2307+106 | 04 52 57 | 11.5 | 273.0 | 5.7 | | 37.7 | 50 | 4379 | 10 50 36 |
| 10 51 25 | NGC7479 | 04 52 57 | 11.8 | 275.0 | 5.8 | | 37.8 | -18 | 4379 | No stop |
| 10 55 25 | --- | 04 56 57 | 11.2 | 275.8 | 5.9 | | 37.7 | 222 | 4410 | 10 51 26 |
| 10 55 25 | J2300+1037 | 04 56 57 | 9.2 | 275.7 | 5.9 | | 37.5 | -22 | 4410 | No stop |
| 10 57 05 | =2257+103 | 04 58 38 | 8.9 | 276.0 | 6.0 | | 37.4 | 78 | 4423 | 10 55 26 |
| 10 57 45 | J2310+1055 | 04 59 18 | 10.6 | 274.3 | 5.8 | | 37.6 | 20 | 4423 | 10 57 45 |
| 10 58 35 | =2307+106 | 05 00 08 | 10.4 | 274.5 | 5.8 | | 37.6 | 50 | 4429 | 10 57 46 |
| 10 58 35 | NGC7479 | 05 00 08 | 10.7 | 276.4 | 5.9 | | 37.7 | -18 | 4429 | No stop |
| 11 02 35 | --- | 05 04 09 | 10.1 | 277.2 | 6.0 | | 37.6 | 222 | 4460 | 10 58 36 |
| 11 02 35 | J2300+1037 | 05 04 09 | 8.1 | 277.1 | 6.1 | | 37.3 | -22 | 4460 | No stop |
| 11 04 15 | =2257+103 | 05 05 49 | 7.8 | 277.4 | 6.1 | | 37.3 | 78 | 4473 | 11 02 36 |
| 11 04 55 | J2310+1055 | 05 06 29 | 9.5 | 275.7 | 5.9 | | 37.5 | 20 | 4473 | 11 04 55 |
| 11 05 45 | =2307+106 | 05 07 19 | 9.4 | 275.9 | 5.9 | | 37.5 | 50 | 4479 | 11 04 56 |
| 11 11 55 | BLLAC | 05 13 30 | 23.9 | 309.6 | 7.2 | | 38.8 | 289 | 4479 | 11 11 55 |
| 11 14 55 | --- | 05 16 31 | 23.5 | 310.1 | 7.2 | | 38.5 | 180 | 4503 | 11 11 56 |

```
SETUP FILE INFORMATION:


 ======== Setup file: sess214.L1024

   Setup group:   11         Station: TORUN            Total bit rate:  1024
   Format: MARK5B            Bits per sample: 2        Sample rate: 32.000
   Number of channels: 16    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.

   1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
             2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
   Net SB=         L         L         U         U         L         L         U         U
                   L         L         U         U         L         L         U         U
   IF SB =         L         L         L         L         L         L         L         L
                   L         L         L         L         L         L         L         L
   Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                 RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
   BBC   =         1         5         1         5         2         6         2         6
                   3         7         3         7         4         8         4         8
   BBC SB=         U         U         L         L         U         U         L         L
                   U         U         L         L         U         U         L         L
   IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                  A1        B1        A1        B1        A1        B1        A1        B1

  The following frequency sets based on these setups were used.

   Frequency Set:   6  Setup file default.  Used with PCAL = off
   LO sum=   1610.49  1610.49  1610.49  1610.49  1642.49  1642.49  1642.49  1642.49
             1674.49  1674.49  1674.49  1674.49  1706.49  1706.49  1706.49  1706.49
   BBC fr=    689.51   689.51   689.51   689.51   657.51   657.51   657.51   657.51
              625.51   625.51   625.51   625.51   593.51   593.51   593.51   593.51
   Bandwd=     16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
               16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
    Matching frequency sets:   6

   Track assignments are:
    track1=   2, 10, 18, 26,  4, 12, 20, 28,  6, 14, 22, 30,  8, 16, 24, 32
    barrel=roll_off


 POSITIONS OF SOURCES USED IN RECORDING SCANS

   Source                        Source position (RA/Dec)                        Error
                        (B1950)            (J2000)            (Date)            (mas)

 * NGC7479           23 02 26.366401   * 23 04 56.632000     23 05 40.450527       0.00
                     12 03 10.64397    * 12 19 22.64400      12 24 01.52541        0.00

   J2202+4216        22 00 39.362504   * 22 02 43.291371     22 03 20.271521       0.14
 * BLLAC             42 02 08.59073    * 42 16 39.97987      42 20 43.85945        0.10

   J2253+1608        22 51 29.519738   * 22 53 57.747937     22 54 41.081918       0.68
 * 3C454.3           15 52 54.34810    * 16 08 53.56093      16 13 27.95670        0.72

 * J2300+1037        22 57 47.790294   * 23 00 18.312542     23 01 02.210465       0.24
   2257+103          10 21 47.20831    * 10 37 54.08336      10 42 32.24446        0.49

 * J2310+1055        23 07 57.541034   * 23 10 28.517736     23 11 12.495568       0.10
   2307+106          10 39 13.09625    * 10 55 30.69666      11 00 11.42565        0.11
```

# eh031tr

## EVN + eMERLIN observation of M87 EH031 (Hada)

PI: *Kazuhiro Hada*


Address: INAF-IRA Via Gobetti 101 40129 Bologna Italy
Phone: +39 051 6399414 EMAIL: hada@ira.inaf.it


Schedule for TORUN (Code Tr ) Page 2
EVN + eMERLIN observation of M87 EH031 (Hada)
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop Source | | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| Next scan frequencies: | | 1610.49 | 1610.49 | 1610.49 | 1610.49 | 1642.49 | 1642.49 | 1642.49 | 1642.49 | |
| | | 1674.49 | 1674.49 | 1674.49 | 1674.49 | 1706.49 | 1706.49 | 1706.49 | 1706.49 | |
| Next BBC frequencies: | | 689.51 | 689.51 | 689.51 | 689.51 | 657.51 | 657.51 | 657.51 | 657.51 | |
| | | 625.51 | 625.51 | 625.51 | 625.51 | 593.51 | 593.51 | 593.51 | 593.51 | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | |
| | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | |
| 14 00 00 | M87 | 08 02 03 | 23.3 | 100.8 | -4.5 | | -37.1 | 0 | 0 | 14 00 00 |
| 14 05 00 | --- | 08 07 04 | 24.1 | 101.9 | -4.4 | | -37.0 | 300 | 38 | 14 00 01 |
| 14 05 40 | M87 | 08 07 44 | 24.2 | 102.0 | -4.4 | | -36.9 | 34 | 38 | 14 05 40 |
| 14 20 00 | --- | 08 22 06 | 26.3 | 105.1 | -4.2 | | -36.4 | 860 | 149 | 14 05 41 |
| 14 20 40 | M87 | 08 22 46 | 26.4 | 105.3 | -4.1 | | -36.4 | 34 | 149 | 14 20 40 |
| 14 35 00 | --- | 08 37 09 | 28.4 | 108.5 | -3.9 | | -35.7 | 860 | 259 | 14 20 41 |
| 14 36 00 | M84 | 08 38 09 | 29.8 | 109.7 | -3.8 | | -35.4 | 42 | 259 | 14 36 00 |
| 14 40 00 | --- | 08 42 09 | 30.4 | 110.6 | -3.7 | | -35.2 | 240 | 290 | 14 36 01 |
| 14 42 00 | 3C286 | 08 44 10 | 34.5 | 83.7 | -4.8 | | -43.8 | 51 | 290 | 14 42 00 |
| 14 45 00 | --- | 08 47 10 | 34.9 | 84.3 | -4.7 | | -43.9 | 180 | 313 | 14 42 01 |
| 14 47 00 | OQ208 | 08 49 10 | 28.4 | 79.6 | -5.3 | | -42.2 | 81 | 313 | 14 47 00 |
| 14 50 00 | --- | 08 52 11 | 28.8 | 80.2 | -5.3 | | -42.3 | 180 | 336 | 14 47 01 |
| 14 50 00 | 4C39.25 | 08 52 11 | 74.6 | 152.9 | -0.6 | | -20.6 | -186 | 336 | No stop |
| 15 00 00 | --- | 09 02 13 | 75.2 | 160.1 | -0.4 | | -15.3 | 414 | 413 | 14 50 01 |
| 15 03 00 | M87 | 09 05 13 | 32.3 | 115.0 | -3.4 | | -33.8 | 5 | 413 | 15 03 00 |
| 15 06 00 | --- | 09 08 14 | 32.8 | 115.7 | -3.4 | | -33.6 | 180 | 436 | 15 03 01 |
| 15 06 40 | M87 | 09 08 54 | 32.8 | 115.9 | -3.4 | | -33.6 | 34 | 436 | 15 06 40 |
| 15 13 00 | --- | 09 15 15 | 33.7 | 117.5 | -3.3 | | -33.0 | 380 | 485 | 15 06 41 |
| 15 13 40 | M87 | 09 15 55 | 33.8 | 117.6 | -3.3 | | -33.0 | 34 | 485 | 15 13 40 |
| 15 27 00 | --- | 09 29 17 | 35.5 | 121.0 | -3.0 | | -31.8 | 800 | 587 | 15 13 41 |
| 15 27 40 | M87 | 09 29 57 | 35.6 | 121.1 | -3.0 | | -31.7 | 34 | 587 | 15 27 40 |
| 15 41 00 | --- | 09 43 19 | 37.3 | 124.6 | -2.8 | | -30.4 | 800 | 690 | 15 27 41 |

Schedule for TORUN (Code Tr ) Page 3

EVN + eMERLIN observation of M87 EH031 (Hada)

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 15 41 40 | M87 | 09 43 59 | 37.4 | 124.8 | -2.8 | | -30.3 | 34 | 690 | 15 41 40 |
| 15 55 00 | --- | 09 57 22 | 39.0 | 128.4 | -2.6 | | -28.8 | 800 | 792 | 15 41 41 |
| 15 56 00 | M84 | 09 58 22 | 40.2 | 130.0 | -2.5 | | -28.1 | 43 | 792 | 15 56 00 |
| 16 00 00 | --- | 10 02 22 | 40.7 | 131.1 | -2.4 | | -27.6 | 240 | 823 | 15 56 01 |
| 16 01 00 | M87 | 10 03 23 | 39.7 | 130.1 | -2.5 | | -28.0 | 43 | 823 | 16 01 00 |
| 16 10 00 | --- | 10 12 24 | 40.7 | 132.7 | -2.3 | | -26.9 | 540 | 892 | 16 01 01 |
| 16 10 40 | M87 | 10 13 04 | 40.8 | 132.8 | -2.3 | | -26.8 | 34 | 892 | 16 10 40 |
| 16 22 00 | --- | 10 24 26 | 42.0 | 136.2 | -2.1 | | -25.2 | 680 | 979 | 16 10 41 |
| 16 22 40 | M87 | 10 25 06 | 42.1 | 136.4 | -2.1 | | -25.1 | 34 | 979 | 16 22 40 |
| 16 34 00 | --- | 10 36 28 | 43.2 | 139.8 | -1.9 | | -23.4 | 680 | 1067 | 16 22 41 |
| 16 34 40 | M87 | 10 37 08 | 43.3 | 140.0 | -1.9 | | -23.3 | 34 | 1067 | 16 34 40 |
| 16 46 00 | --- | 10 48 30 | 44.3 | 143.6 | -1.7 | | -21.4 | 680 | 1154 | 16 34 41 |
| 16 47 00 | M84 | 10 49 30 | 45.4 | 145.5 | -1.6 | | -20.4 | 43 | 1154 | 16 47 00 |
| 16 50 00 | --- | 10 52 31 | 45.6 | 146.5 | -1.6 | | -19.9 | 180 | 1177 | 16 47 01 |
| 16 52 30 | 3C286 | 10 55 01 | 53.7 | 112.9 | -2.6 | | -39.9 | 67 | 1177 | 16 52 30 |
| 16 55 30 | --- | 10 58 02 | 54.2 | 113.7 | -2.6 | | -39.6 | 180 | 1200 | 16 52 31 |
| 16 57 00 | OQ208 | 10 59 32 | 47.7 | 106.8 | -3.1 | | -40.8 | 52 | 1200 | 16 57 00 |
| 17 00 00 | --- | 11 02 32 | 48.2 | 107.5 | -3.1 | | -40.6 | 180 | 1223 | 16 57 01 |
| 17 03 00 | M87 | 11 05 33 | 45.8 | 149.1 | -1.4 | | -18.4 | 83 | 1223 | 17 03 00 |
| 17 13 00 | --- | 11 15 34 | 46.5 | 152.5 | -1.3 | | -16.5 | 600 | 1300 | 17 03 01 |
| 17 13 40 | M87 | 11 16 15 | 46.5 | 152.7 | -1.3 | | -16.4 | 34 | 1300 | 17 13 40 |
| 17 25 00 | --- | 11 27 36 | 47.3 | 156.6 | -1.1 | | -14.1 | 680 | 1387 | 17 13 41 |
| 17 26 00 | M84 | 11 28 37 | 48.1 | 158.8 | -1.0 | | -12.8 | 43 | 1387 | 17 26 00 |
| 17 30 00 | --- | 11 32 37 | 48.3 | 160.3 | -0.9 | | -12.0 | 240 | 1418 | 17 26 01 |
| 17 31 00 | M87 | 11 33 37 | 47.6 | 158.7 | -1.0 | | -12.9 | 43 | 1418 | 17 31 00 |
| 17 40 00 | --- | 11 42 39 | 48.1 | 162.0 | -0.8 | | -11.0 | 540 | 1487 | 17 31 01 |
| 17 40 40 | M87 | 11 43 19 | 48.1 | 162.2 | -0.8 | | -10.8 | 34 | 1487 | 17 40 40 |
| 17 52 00 | --- | 11 54 41 | 48.6 | 166.3 | -0.6 | | -8.4 | 680 | 1574 | 17 40 41 |
| 17 52 40 | M87 | 11 55 21 | 48.6 | 166.6 | -0.6 | | -8.2 | 34 | 1574 | 17 52 40 |
| 18 04 00 | --- | 12 06 43 | 48.9 | 170.7 | -0.4 | | -5.7 | 680 | 1662 | 17 52 41 |
| 18 04 40 | M87 | 12 07 23 | 48.9 | 171.0 | -0.4 | | -5.5 | 34 | 1662 | 18 04 40 |
| 18 16 00 | --- | 12 18 45 | 49.1 | 175.2 | -0.2 | | -2.9 | 680 | 1749 | 18 04 41 |

Schedule for TORUN (Code Tr ) Page 4

EVN + eMERLIN observation of M87 EH031 (Hada)

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 18 17 00 | M84 | 12 19 45 | 49.7 | 177.7 | -0.1 | | -1.4 | 42 | 1749 | 18 17 00 |
| 18 20 00 | --- | 12 22 45 | 49.7 | 178.9 | -0.1 | | -0.7 | 180 | 1772 | 18 17 01 |
| 18 23 00 | 3C286 | 12 25 46 | 64.4 | 145.5 | -1.1 | | -23.2 | 97 | 1772 | 18 23 00 |
| 18 25 30 | --- | 12 28 16 | 64.6 | 146.7 | -1.1 | | -22.5 | 150 | 1791 | 18 23 01 |
| 18 27 00 | OQ208 | 12 29 47 | 59.4 | 134.2 | -1.6 | | -29.3 | 49 | 1791 | 18 27 00 |
| 18 30 00 | --- | 12 32 47 | 59.7 | 135.4 | -1.6 | | -28.7 | 180 | 1814 | 18 27 01 |
| 18 33 40 | M87 | 12 36 28 | 49.2 | 181.8 | 0.1 | | 1.1 | 114 | 1814 | 18 33 40 |
| 18 43 00 | --- | 12 45 49 | 49.1 | 185.3 | 0.2 | | 3.3 | 560 | 1886 | 18 33 41 |
| 18 43 40 | M87 | 12 46 29 | 49.1 | 185.6 | 0.2 | | 3.4 | 34 | 1886 | 18 43 40 |
| 18 57 00 | --- | 12 59 52 | 48.8 | 190.5 | 0.5 | | 6.4 | 800 | 1988 | 18 43 41 |
| 18 57 40 | M87 | 13 00 32 | 48.8 | 190.8 | 0.5 | | 6.6 | 34 | 1988 | 18 57 40 |
| 19 11 00 | --- | 13 13 54 | 48.3 | 195.7 | 0.7 | | 9.6 | 800 | 2091 | 18 57 41 |
| 19 11 40 | M87 | 13 14 34 | 48.3 | 195.9 | 0.7 | | 9.7 | 34 | 2091 | 19 11 40 |
| 19 25 00 | --- | 13 27 56 | 47.7 | 200.7 | 0.9 | | 12.5 | 800 | 2194 | 19 11 41 |
| 19 26 00 | M84 | 13 28 56 | 47.8 | 203.3 | 1.1 | | 14.1 | 41 | 2194 | 19 26 00 |
| 19 30 00 | --- | 13 32 57 | 47.5 | 204.7 | 1.1 | | 14.9 | 240 | 2224 | 19 26 01 |
| 19 31 00 | M87 | 13 33 57 | 47.4 | 202.8 | 1.0 | | 13.8 | 42 | 2224 | 19 31 00 |
| 19 34 00 | --- | 13 36 58 | 47.2 | 203.9 | 1.1 | | 14.4 | 180 | 2247 | 19 31 01 |
| 19 34 40 | M87 | 13 37 38 | 47.1 | 204.1 | 1.1 | | 14.5 | 34 | 2247 | 19 34 40 |
| 19 39 00 | --- | 13 41 58 | 46.9 | 205.6 | 1.2 | | 15.4 | 260 | 2281 | 19 34 41 |
| 19 42 30 | OQ208 | 13 45 29 | 65.0 | 168.4 | -0.4 | | -7.9 | 118 | 2281 | 19 42 30 |
| 19 45 00 | --- | 13 47 59 | 65.0 | 169.7 | -0.3 | | -7.0 | 150 | 2300 | 19 42 31 |
| 19 48 00 | M87 | 13 51 00 | 46.2 | 208.7 | 1.3 | | 17.2 | 88 | 2300 | 19 48 00 |
| 19 50 00 | --- | 13 53 00 | 46.1 | 209.4 | 1.4 | | 17.5 | 120 | 2315 | 19 48 01 |
| 19 50 40 | M87 | 13 53 40 | 46.0 | 209.6 | 1.4 | | 17.7 | 34 | 2315 | 19 50 40 |
| 20 08 00 | --- | 14 11 03 | 44.6 | 215.3 | 1.7 | | 20.8 | 1040 | 2449 | 19 50 41 |
| 20 08 40 | M87 | 14 11 43 | 44.6 | 215.5 | 1.7 | | 20.9 | 34 | 2449 | 20 08 40 |
| 20 26 00 | --- | 14 29 06 | 43.0 | 220.9 | 2.0 | | 23.7 | 1040 | 2582 | 20 08 41 |
| 20 27 00 | M84 | 14 30 06 | 42.7 | 223.3 | 2.1 | | 25.0 | 42 | 2582 | 20 27 00 |
| 20 30 00 | --- | 14 33 07 | 42.4 | 224.2 | 2.1 | | 25.4 | 180 | 2605 | 20 27 01 |
| 20 33 40 | M87 | 14 36 47 | 42.2 | 223.3 | 2.1 | | 24.9 | 202 | 2605 | 20 33 40 |
| 20 40 00 | --- | 14 43 08 | 41.5 | 225.1 | 2.2 | | 25.8 | 380 | 2654 | 20 33 41 |

Schedule for TORUN (Code Tr ) Page 5

EVN + eMERLIN observation of M87 EH031 (Hada)

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 20 40 40 | M87 | 14 43 49 | 41.5 | 225.3 | 2.2 | | 25.9 | 34 | 2654 | 20 40 40 |
| 20 50 00 | --- | 14 53 10 | 40.4 | 228.0 | 2.4 | | 27.2 | 560 | 2726 | 20 40 41 |
| 20 50 40 | M87 | 14 53 50 | 40.4 | 228.2 | 2.4 | | 27.3 | 34 | 2726 | 20 50 40 |
| 21 00 00 | --- | 15 03 12 | 39.3 | 230.9 | 2.5 | | 28.5 | 560 | 2797 | 20 50 41 |
| 21 03 00 | 3C286 | 15 06 12 | 61.6 | 226.5 | 1.6 | | 30.3 | 82 | 2797 | 21 03 00 |
| 21 05 30 | --- | 15 08 43 | 61.3 | 227.5 | 1.6 | | 30.9 | 150 | 2817 | 21 03 01 |
| 21 07 30 | OQ208 | 15 10 43 | 62.7 | 211.4 | 1.1 | | 20.8 | 72 | 2817 | 21 07 30 |
| 21 10 00 | --- | 15 13 13 | 62.5 | 212.5 | 1.1 | | 21.5 | 150 | 2836 | 21 07 31 |
| 21 13 00 | M87 | 15 16 14 | 37.7 | 234.4 | 2.7 | | 30.0 | 74 | 2836 | 21 13 00 |
| 21 15 00 | --- | 15 18 14 | 37.5 | 235.0 | 2.8 | | 30.2 | 120 | 2851 | 21 13 01 |
| 21 15 40 | M87 | 15 18 54 | 37.4 | 235.1 | 2.8 | | 30.3 | 34 | 2851 | 21 15 40 |
| 21 25 00 | --- | 15 28 16 | 36.2 | 237.6 | 2.9 | | 31.3 | 560 | 2923 | 21 15 41 |
| 21 26 00 | M84 | 15 29 16 | 35.8 | 239.6 | 3.1 | | 32.1 | 43 | 2923 | 21 26 00 |
| 21 30 00 | --- | 15 33 17 | 35.3 | 240.7 | 3.1 | | 32.5 | 240 | 2954 | 21 26 01 |
| 21 31 00 | M87 | 15 34 17 | 35.5 | 239.1 | 3.0 | | 31.8 | 43 | 2954 | 21 31 00 |
| 21 40 00 | --- | 15 43 18 | 34.3 | 241.4 | 3.2 | | 32.7 | 540 | 3023 | 21 31 01 |
| 21 40 40 | M87 | 15 43 58 | 34.2 | 241.6 | 3.2 | | 32.7 | 34 | 3023 | 21 40 40 |
| 21 52 00 | --- | 15 55 20 | 32.7 | 244.4 | 3.4 | | 33.6 | 680 | 3110 | 21 40 41 |
| 21 52 40 | M87 | 15 56 00 | 32.6 | 244.5 | 3.4 | | 33.7 | 34 | 3110 | 21 52 40 |
| 22 04 00 | --- | 16 07 22 | 31.0 | 247.2 | 3.6 | | 34.5 | 680 | 3197 | 21 52 41 |
| 22 04 40 | M87 | 16 08 02 | 31.0 | 247.4 | 3.6 | | 34.6 | 34 | 3197 | 22 04 40 |
| 22 16 00 | --- | 16 19 24 | 29.4 | 250.0 | 3.8 | | 35.3 | 680 | 3285 | 22 04 41 |
| 22 17 00 | M84 | 16 20 24 | 28.8 | 251.9 | 3.9 | | 35.8 | 43 | 3285 | 22 17 00 |
| 22 20 00 | --- | 16 23 25 | 28.4 | 252.6 | 4.0 | | 36.0 | 180 | 3308 | 22 17 01 |
| 22 23 00 | 3C286 | 16 26 25 | 51.2 | 251.9 | 2.9 | | 41.4 | 80 | 3308 | 22 23 00 |
| 22 25 30 | --- | 16 28 56 | 50.9 | 252.5 | 3.0 | | 41.6 | 150 | 3327 | 22 23 01 |
| 22 27 30 | OQ208 | 16 30 56 | 54.0 | 241.0 | 2.4 | | 36.7 | 81 | 3327 | 22 27 30 |
| 22 30 00 | --- | 16 33 27 | 53.6 | 241.8 | 2.4 | | 37.0 | 150 | 3346 | 22 27 31 |
| 22 33 40 | M87 | 16 37 07 | 26.8 | 254.0 | 4.1 | | 36.2 | 107 | 3346 | 22 33 40 |
| 22 43 00 | --- | 16 46 29 | 25.5 | 256.0 | 4.2 | | 36.6 | 560 | 3418 | 22 33 41 |

Schedule for TORUN (Code Tr ) Page 6

EVN + eMERLIN observation of M87 EH031 (Hada)

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 3 Jun 2014 Day 154 --- | | | | | | | | | | |
| 22 43 40 | M87 | 16 47 09 | 25.4 | 256.2 | 4.3 | | 36.6 | 34 | 3418 | 22 43 40 |
| 22 55 00 | --- | 16 58 31 | 23.7 | 258.6 | 4.4 | | 37.1 | 680 | 3505 | 22 43 41 |
| 22 56 00 | M84 | 16 59 31 | 23.1 | 260.4 | 4.6 | | 37.4 | 44 | 3505 | 22 56 00 |
| 23 00 00 | --- | 17 03 31 | 22.5 | 261.2 | 4.6 | | 37.5 | 240 | 3536 | 22 56 01 |
| 23 00 00 | J1118+1234 | 17 03 31 | 12.4 | 274.4 | 5.7 | | 37.8 | -52 | 3536 | No stop |
| 23 06 00 | =1116+128 | 17 09 32 | 11.5 | 275.6 | 5.8 | | 37.7 | 308 | 3582 | 23 00 01 |
| 23 11 00 | M87 | 17 14 33 | 21.3 | 262.0 | 4.7 | | 37.5 | 247 | 3582 | 23 11 00 |
| 23 15 00 | --- | 17 18 34 | 20.7 | 262.8 | 4.8 | | 37.6 | 240 | 3613 | 23 11 01 |
| 23 15 40 | M87 | 17 19 14 | 20.6 | 263.0 | 4.8 | | 37.6 | 34 | 3613 | 23 15 40 |
| 23 30 00 | --- | 17 33 36 | 18.5 | 265.9 | 5.0 | | 37.8 | 860 | 3723 | 23 15 41 |
| 23 30 40 | M87 | 17 34 17 | 18.4 | 266.1 | 5.0 | | 37.8 | 34 | 3723 | 23 30 40 |
| 23 45 00 | --- | 17 48 39 | 16.2 | 269.0 | 5.3 | | 37.9 | 860 | 3833 | 23 30 41 |
| 23 46 00 | M84 | 17 49 39 | 15.6 | 270.6 | 5.4 | | 38.0 | 44 | 3833 | 23 46 00 |
| 23 50 00 | --- | 17 53 40 | 15.0 | 271.4 | 5.5 | | 38.0 | 240 | 3864 | 23 46 01 |
| 23 52 00 | 3C286 | 17 55 40 | 38.0 | 271.7 | 4.4 | | 44.1 | 20 | 3864 | 23 52 00 |
| 23 55 00 | --- | 17 58 41 | 37.6 | 272.3 | 4.4 | | 44.1 | 180 | 3887 | 23 52 01 |
| 23 57 00 | OQ208 | 18 00 41 | 41.2 | 263.5 | 3.9 | | 42.7 | 87 | 3887 | 23 57 00 |
| 23 59 59 | --- | 18 03 41 | 40.7 | 264.2 | 3.9 | | 42.8 | 179 | 3910 | 23 57 01 |
| --- Wed 4 Jun 2014 Day 155 --- | | | | | | | | | | |
| 00 03 40 | M87 | 18 07 22 | 13.4 | 272.7 | 5.6 | | 37.9 | 105 | 3910 | 00 03 40 |
| 00 15 00 | --- | 18 18 44 | 11.7 | 274.9 | 5.8 | | 37.8 | 680 | 3997 | 00 03 41 |
| 00 15 40 | M87 | 18 19 24 | 11.6 | 275.1 | 5.8 | | 37.7 | 34 | 3997 | 00 15 40 |
| 00 30 00 | --- | 18 33 46 | 9.5 | 277.9 | 6.0 | | 37.5 | 860 | 4108 | 00 15 41 |
| 00 30 40 | M87 | 18 34 26 | 9.4 | 278.0 | 6.0 | | 37.5 | 34 | 4108 | 00 30 40 |
| 00 45 00 | --- | 18 48 49 | 7.3 | 280.9 | 6.3 | | 37.1 | 860 | 4218 | 00 30 41 |
| 00 45 40 | M87 | 18 49 29 | 7.2 | 281.0 | 6.3 | | 37.1 | 34 | 4218 | 00 45 40 |
| 01 00 00 | --- | 19 03 51 | 5.1 | 283.8 | 6.5 | | 36.6 | 860 | 4328 | 00 45 41 |

```
SETUP FILE INFORMATION:

 ======== Setup file: sess214.L1024
   Setup group:   12         Station: TORUN            Total bit rate:  1024
   Format: MARK5B            Bits per sample: 2        Sample rate: 32.000
   Number of channels: 16    DBE type:                 Speedup factor:   1.00

   Disk used to record data.

   1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
             2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
   Net SB=         L         L         U         U         L         L         U         U
                   L         L         U         U         L         L         U         U
   IF SB =         L         L         L         L         L         L         L         L
                   L         L         L         L         L         L         L         L
   Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                 RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
   BBC   =         1         5         1         5         2         6         2         6
                   3         7         3         7         4         8         4         8
   BBC SB=         U         U         L         L         U         U         L         L
                   U         U         L         L         U         U         L         L
   IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                  A1        B1        A1        B1        A1        B1        A1        B1

  The following frequency sets based on these setups were used.

   Frequency Set:   6  Setup file default.  Used with PCAL = off
   LO sum=   1610.49  1610.49  1610.49  1610.49  1642.49  1642.49  1642.49  1642.49
             1674.49  1674.49  1674.49  1674.49  1706.49  1706.49  1706.49  1706.49
   BBC fr=    689.51   689.51   689.51   689.51   657.51   657.51   657.51   657.51
              625.51   625.51   625.51   625.51   593.51   593.51   593.51   593.51
   Bandwd=     16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
               16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
    Matching frequency sets:   6

   Track assignments are:
    track1=   2,  4,  6,  8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
    barrel=roll_off


 POSITIONS OF SOURCES USED IN RECORDING SCANS

   Source                        Source position (RA/Dec)                        Error
                       (B1950)            (J2000)            (Date)            (mas)

   J0927+3902        09 23 55.319217   * 09 27 03.013938     09 27 56.511984       0.13
 * 4C39.25           39 15 23.56637    * 39 02 20.85177      38 58 35.66840        0.10

 * J1118+1234        11 16 20.775213   * 11 18 57.301435     11 19 42.864220       0.10
   1116+128          12 51 06.68995    * 12 34 41.71795      12 29 54.85266        0.11

   J1225+1253        12 22 31.582012   * 12 25 03.743328     12 25 48.428473       0.11
 * M84               13 09 49.76841    * 12 53 13.13902      12 48 25.80077        0.14

 * M87               12 28 17.569280   * 12 30 49.423382     12 31 34.058089       0.10
   3C274             12 40 01.74884    * 12 23 28.04366      12 18 41.62492        0.10

   J1331+3030        13 28 49.657778   * 13 31 08.288070     13 31 49.282228       0.20
 * 3C286             30 45 58.64061    * 30 30 32.95925      30 26 13.25960        0.19

   J1407+2827        14 04 45.615156   * 14 07 00.394414     14 07 40.484712       0.24
 * OQ208             28 41 29.23519    * 28 27 14.69022      28 23 15.61348        0.34
```

# rk01g9tr

RadioAstron AGN Survey

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UWAGA: zmiana pasma w czasie tego eksperymentu!!!

########################################################################################
######################## Observing mode: L&C-band, dual-pol ############################
########################################################################################

Schedule for TORUN (Code Tr ) Page 2
RadioAstron AGN Survey
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 4 Jun 2014 Day 155 --- | | | | | | | | | | |
| ---------- L-band VLBI scans ---------- | | | | | | | | | | |
| Next scan frequencies: | | 1668.00 | 1668.00 | 1668.00 | 1668.00 | | | | | |
| Next BBC frequencies: | | 732.00 | 732.00 | 732.00 | 732.00 | | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | | | | | |
| 01 10 00 | 1156+295 | 19 13 53 | 13.0 | -58.2 | 7.2 | | 35.8 | 0 | 0 | 01 10 00 |
| 01 20 00 | --- | 19 23 54 | 11.7 | -56.4 | 7.4 | | 34.9 | 600 | 19 | 01 10 01 |
| ---------- C-band VLBI scans ---------- | | | | | | | | | | |
| Next scan frequencies: | | 4836.00 | 4836.00 | 4836.00 | 4836.00 | | | | | |
| Next BBC frequencies: | | 736.00 | 736.00 | 736.00 | 736.00 | | | | | |
| 01 25 00 | 1156+295 | 19 28 55 | 11.1 | -55.5 | 7.5 | | 34.5 | 293 | 19 | 01 25 00 |
| 01 39 30 | --- | 19 43 28 | 9.3 | -52.8 | 7.7 | | 33.2 | 870 | 47 | 01 25 01 |
| 01 40 00 | 1156+295 | 19 43 58 | 9.2 | -52.7 | 7.7 | | 33.2 | 24 | 47 | 01 40 00 |
| 01 45 00 | --- | 19 48 59 | 8.6 | -51.8 | 7.8 | | 32.7 | 300 | 57 | 01 40 01 |

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: ra18cm2.set

Setup group: 6 Station: TORUN Total bit rate: 256
Format: MKIV1:4 Bits per sample: 2 Sample rate: 32.000
Number of channels: 4 DBE type: Speedup factor: 1.00

```
  Disk used to record data.

  1st LO=   2400.00   2400.00   2400.00   2400.00
  Net SB=         L         L         U         U
  IF SB =         L         L         L         L
  Pol.  =      RCP       LCP       RCP       LCP
  BBC   =         1         2         1         2
  BBC SB=         U         U         L         L
  IF    =        C         A         C         A

 The following frequency sets based on these setups were used.

  Frequency Set:   4  Setup file default.  Used with PCAL = 1MHz
  LO sum=   1668.00  1668.00  1668.00  1668.00
  BBC fr=    732.00   732.00   732.00   732.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   4

  Track assignments are:
   track1=   2, 18,  3, 19
   barrel=roll_off


======== Setup file: ra6cm2.set

  Setup group:    1         Station: TORUN            Total bit rate:   256
  Format: MKIV1:4           Bits per sample: 2        Sample rate: 32.000
  Number of channels:  4    DBE type:                 Speedup factor:   1.00

  Disk used to record data.


  1st LO=   4100.00   4100.00   4100.00   4100.00
  Net SB=         L         L         U         U
  IF SB =         U         U         U         U
  Pol.  =      RCP       LCP       RCP       LCP
  BBC   =         1         2         1         2
  BBC SB=         L         L         U         U
  IF    =        C         A         C         A

 The following frequency sets based on these setups were used.

  Frequency Set:   5  Setup file default.  Used with PCAL = 1MHz
  LO sum=   4836.00  4836.00  4836.00  4836.00
  BBC fr=    736.00   736.00   736.00   736.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   5

  Track assignments are:
   track1=   2, 18,  3, 19
   barrel=roll_off


POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                        Source position (RA/Dec)                        Error
                      (B1950)            (J2000)            (Date)            (mas)

* 1156+295          11 56 57.786212   * 11 59 31.833913     12 00 16.714168       0.00
  J1159+2914        29 31 25.73868    * 29 14 43.82678      29 09 59.29937        0.00
```

# gs032dtr

## The nuclear structure in nearby AGN

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Notes: L-band, Radioastron-compatible frequency setup
Please send diskpacks to MPIfR Bonn



UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|
| --- Wed 4 Jun 2014 Day 155 --- | | | | | | | | | |
| ---------- Space segment 02: L-band VLBI scans ---------- | | | | | | | | | |
| Next scan frequencies: | | 1668.00 | 1668.00 | 1668.00 | 1668.00 | | | | |
| Next BBC frequencies: | | 632.00 | 632.00 | 632.00 | 632.00 | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | | | | |
| 11 45 00 1228+126 | 05 50 37 | 3.8 | 74.5 | -6.7 | | -36.3 | 0 | 0 | 11 45 00 |
| 12 04 30 --- | 06 10 10 | 6.7 | 78.3 | -6.4 | | -37.0 | 1170 | 37 | 11 45 01 |
| 12 05 00 1228+126 | 06 10 40 | 6.7 | 78.4 | -6.3 | | -37.0 | 24 | 37 | 12 05 00 |
| 12 24 30 --- | 06 30 14 | 9.6 | 82.3 | -6.0 | | -37.5 | 1170 | 75 | 12 05 01 |
| ---------- L-band GRT-only VLBI scans - segment 03L ---------- | | | | | | | | | |
| 12 25 20 1236+077 | 06 31 04 | 4.6 | 83.7 | -6.2 | | -37.0 | 17 | 75 | 12 25 20 |
| 12 27 50 --- | 06 33 34 | 4.9 | 84.2 | -6.1 | | -37.0 | 150 | 80 | 12 25 21 |
| 12 28 40 1228+126 | 06 34 24 | 10.2 | 83.1 | -6.0 | | -37.6 | 16 | 80 | 12 28 40 |
| 12 38 10 --- | 06 43 56 | 11.7 | 85.0 | -5.8 | | -37.8 | 570 | 98 | 12 28 41 |
| ---------- Allow time for Kalyazin and Evpatoria to change source ---------- | | | | | | | | | |
| 12 38 30 1228+126 | 06 44 16 | 11.7 | 85.0 | -5.8 | | -37.8 | 14 | 98 | 12 38 30 |
| 12 48 00 --- | 06 53 47 | 13.1 | 86.9 | -5.6 | | -37.9 | 570 | 116 | 12 38 31 |
| 12 48 50 1236+077 | 06 54 38 | 8.1 | 88.4 | -5.8 | | -37.3 | 17 | 116 | 12 48 50 |
| 12 51 50 --- | 06 57 38 | 8.6 | 89.0 | -5.7 | | -37.3 | 180 | 122 | 12 48 51 |
| 12 52 40 1222+037 | 06 58 28 | 7.7 | 94.5 | -5.5 | | -36.8 | 24 | 122 | 12 52 40 |
| 12 55 40 --- | 07 01 29 | 8.1 | 95.1 | -5.4 | | -36.8 | 180 | 128 | 12 52 41 |

Schedule for TORUN (Code Tr ) Page 3

The nuclear structure in nearby AGN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 4 Jun 2014 Day 155 --- | | | | | | | | | | |
| 12 56 40 | 1228+126 | 07 02 29 | 14.4 | 88.6 | -5.5 | | -37.9 | 23 | 128 | 12 56 40 |
| 13 05 40 | --- | 07 11 30 | 15.8 | 90.4 | -5.3 | | -37.9 | 540 | 145 | 12 56 41 |
| 13 06 10 | 1228+126 | 07 12 00 | 15.9 | 90.5 | -5.3 | | -37.9 | 24 | 145 | 13 06 10 |
| 13 15 40 | --- | 07 21 32 | 17.3 | 92.5 | -5.2 | | -37.9 | 570 | 163 | 13 06 11 |
| 13 16 10 | 1228+126 | 07 22 02 | 17.4 | 92.6 | -5.2 | | -37.9 | 24 | 163 | 13 16 10 |
| 13 25 40 | --- | 07 31 34 | 18.8 | 94.5 | -5.0 | | -37.8 | 570 | 182 | 13 16 11 |
| 13 26 30 | 1236+077 | 07 32 24 | 13.8 | 96.0 | -5.1 | | -37.0 | 17 | 182 | 13 26 30 |
| 13 29 00 | --- | 07 34 54 | 14.1 | 96.5 | -5.1 | | -37.0 | 150 | 187 | 13 26 31 |
| ---------- Space segment 03: L-band VLBI scans ---------- | | | | | | | | | | |
| 13 30 00 | 1228+126 | 07 35 54 | 19.5 | 95.4 | -4.9 | | -37.7 | 26 | 187 | 13 30 00 |
| 13 49 30 | --- | 07 55 28 | 22.4 | 99.4 | -4.6 | | -37.3 | 1170 | 224 | 13 30 01 |
| 13 50 00 | 1228+126 | 07 55 58 | 22.4 | 99.5 | -4.6 | | -37.3 | 24 | 224 | 13 50 00 |
| 14 09 30 | --- | 08 15 31 | 25.3 | 103.7 | -4.3 | | -36.7 | 1170 | 262 | 13 50 01 |
| ---------- L-band GRT-only VLBI scans - segment 04L ---------- | | | | | | | | | | |
| 14 10 30 | 1236+077 | 08 16 31 | 20.3 | 105.2 | -4.4 | | -35.8 | 27 | 262 | 14 10 30 |
| 14 13 00 | --- | 08 19 01 | 20.6 | 105.7 | -4.4 | | -35.7 | 150 | 266 | 14 10 31 |
| 14 14 00 | 1228+126 | 08 20 02 | 26.0 | 104.7 | -4.2 | | -36.5 | 26 | 266 | 14 14 00 |
| 14 24 00 | --- | 08 30 03 | 27.4 | 106.9 | -4.0 | | -36.0 | 600 | 286 | 14 14 01 |
| ---------- Allow time for Kalyazin and Evpatoria to change source ---------- | | | | | | | | | | |
| 14 24 30 | 1228+126 | 08 30 33 | 27.5 | 107.0 | -4.0 | | -36.0 | 24 | 286 | 14 24 30 |
| 14 34 30 | --- | 08 40 35 | 28.9 | 109.3 | -3.8 | | -35.5 | 600 | 305 | 14 24 31 |
| 14 35 30 | 1236+077 | 08 41 35 | 23.8 | 110.7 | -4.0 | | -34.5 | 27 | 305 | 14 35 30 |
| 14 38 00 | --- | 08 44 06 | 24.2 | 111.2 | -3.9 | | -34.4 | 150 | 310 | 14 35 31 |
| 14 39 00 | 1222+037 | 08 45 06 | 23.0 | 117.2 | -3.7 | | -32.4 | 33 | 310 | 14 39 00 |
| 14 42 00 | --- | 08 48 06 | 23.4 | 117.9 | -3.6 | | -32.1 | 180 | 315 | 14 39 01 |
| 14 43 30 | 1226+023 | 08 49 36 | 21.8 | 118.1 | -3.7 | | -32.0 | 70 | 315 | 14 43 30 |
| 14 52 30 | --- | 08 58 38 | 23.0 | 120.1 | -3.5 | | -31.3 | 540 | 333 | 14 43 31 |
| ---------- Allow time for Kalyazin and Evpatoria to change source ---------- | | | | | | | | | | |
| 14 54 00 | 1228+126 | 09 00 08 | 31.7 | 113.8 | -3.5 | | -34.2 | 44 | 333 | 14 54 00 |
| 15 04 00 | --- | 09 10 10 | 33.0 | 116.2 | -3.4 | | -33.5 | 600 | 352 | 14 54 01 |
| 15 04 30 | 1228+126 | 09 10 40 | 33.1 | 116.3 | -3.3 | | -33.4 | 24 | 352 | 15 04 30 |
| 15 14 30 | --- | 09 20 42 | 34.4 | 118.8 | -3.2 | | -32.6 | 600 | 371 | 15 04 31 |

Schedule for TORUN (Code Tr ) Page 4

The nuclear structure in nearby AGN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 4 Jun 2014 Day 155 --- | | | | | | | | | | |
| ---------- Space segment 04: L-band VLBI scans ---------- | | | | | | | | | | |
| 15 15 00 | 1228+126 | 09 21 12 | 34.5 | 118.9 | -3.2 | | -32.5 | 24 | 371 | 15 15 00 |
| 15 34 30 | --- | 09 40 45 | 37.0 | 123.9 | -2.8 | | -30.7 | 1170 | 409 | 15 15 01 |
| 15 35 00 | 1228+126 | 09 41 15 | 37.0 | 124.1 | -2.8 | | -30.6 | 24 | 409 | 15 35 00 |
| 15 54 30 | --- | 10 00 48 | 39.4 | 129.4 | -2.5 | | -28.4 | 1170 | 446 | 15 35 01 |
| ---------- L-band GRT-only VLBI scans - segment 05L ---------- | | | | | | | | | | |
| 15 55 30 | 1236+077 | 10 01 48 | 34.2 | 130.2 | -2.6 | | -27.6 | 26 | 446 | 15 55 30 |
| 15 58 00 | --- | 10 04 19 | 34.5 | 130.8 | -2.6 | | -27.3 | 150 | 451 | 15 55 31 |
| 15 59 10 | 1228+126 | 10 05 29 | 39.9 | 130.7 | -2.4 | | -27.8 | 36 | 451 | 15 59 10 |
| 16 08 00 | --- | 10 14 20 | 40.9 | 133.2 | -2.3 | | -26.6 | 530 | 468 | 15 59 11 |
| ---------- Allow time for Kalyazin and Evpatoria to change source ---------- | | | | | | | | | | |
| 16 08 30 | 1228+126 | 10 14 50 | 41.0 | 133.4 | -2.3 | | -26.5 | 24 | 468 | 16 08 30 |
| 16 18 00 | --- | 10 24 22 | 42.0 | 136.2 | -2.1 | | -25.2 | 570 | 486 | 16 08 31 |
| 16 19 00 | 1236+077 | 10 25 22 | 36.8 | 136.6 | -2.2 | | -24.6 | 26 | 486 | 16 19 00 |
| 16 21 30 | --- | 10 27 53 | 37.0 | 137.3 | -2.2 | | -24.2 | 150 | 491 | 16 19 01 |
| 16 22 30 | 1222+037 | 10 28 53 | 34.8 | 143.6 | -1.9 | | -20.9 | 33 | 491 | 16 22 30 |
| 16 25 30 | --- | 10 31 53 | 35.1 | 144.5 | -1.9 | | -20.5 | 180 | 497 | 16 22 31 |
| 16 27 00 | 1228+126 | 10 33 23 | 42.9 | 138.9 | -2.0 | | -23.8 | 47 | 497 | 16 27 00 |
| 16 35 30 | --- | 10 41 55 | 43.7 | 141.5 | -1.8 | | -22.5 | 510 | 513 | 16 27 01 |
| 16 36 00 | 1228+126 | 10 42 25 | 43.8 | 141.7 | -1.8 | | -22.4 | 24 | 513 | 16 36 00 |
| 16 45 30 | --- | 10 51 57 | 44.6 | 144.7 | -1.7 | | -20.8 | 570 | 531 | 16 36 01 |
| 16 46 40 | 1236+077 | 10 53 07 | 39.4 | 144.7 | -1.8 | | -20.5 | 36 | 531 | 16 46 40 |
| 16 49 10 | --- | 10 55 37 | 39.6 | 145.4 | -1.7 | | -20.1 | 150 | 536 | 16 46 41 |
| 16 50 20 | 1228+126 | 10 56 47 | 45.0 | 146.2 | -1.6 | | -20.0 | 36 | 536 | 16 50 20 |
| 16 59 20 | --- | 11 05 49 | 45.8 | 149.2 | -1.4 | | -18.3 | 540 | 554 | 16 50 21 |
| ---------- Space segment 05: L-band VLBI scans ---------- | | | | | | | | | | |
| 17 00 00 | 1228+126 | 11 06 29 | 45.8 | 149.4 | -1.4 | | -18.2 | 34 | 554 | 17 00 00 |
| 17 19 30 | --- | 11 26 02 | 47.2 | 156.1 | -1.1 | | -14.4 | 1170 | 591 | 17 00 01 |
| 17 20 00 | 1228+126 | 11 26 32 | 47.2 | 156.3 | -1.1 | | -14.3 | 24 | 591 | 17 20 00 |
| 17 39 30 | --- | 11 46 05 | 48.2 | 163.2 | -0.8 | | -10.2 | 1170 | 629 | 17 20 01 |

Schedule for TORUN (Code Tr ) Page 5

The nuclear structure in nearby AGN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 4 Jun 2014 Day 155 --- | | | | | | | | | | |
| ---------- L-band GRT-only VLBI scans - segment 06L ---------- | | | | | | | | | | |
| 17 40 40 | 1236+077 | 11 47 16 | 43.1 | 161.9 | -0.9 | | -10.8 | 37 | 629 | 17 40 40 |
| 17 43 10 | --- | 11 49 46 | 43.2 | 162.7 | -0.8 | | -10.3 | 150 | 633 | 17 40 41 |
| 17 44 20 | 1228+126 | 11 50 56 | 48.4 | 165.0 | -0.7 | | -9.2 | 37 | 633 | 17 44 20 |
| 17 53 10 | --- | 11 59 48 | 48.7 | 168.2 | -0.5 | | -7.2 | 530 | 650 | 17 44 21 |
| ---------- Allow time for Kalyazin and Evpatoria to change source ---------- | | | | | | | | | | |
| 17 53 40 | 1228+126 | 12 00 18 | 48.7 | 168.4 | -0.5 | | -7.1 | 24 | 650 | 17 53 40 |
| 18 03 10 | --- | 12 09 49 | 49.0 | 171.9 | -0.4 | | -5.0 | 570 | 669 | 17 53 41 |
| 18 04 20 | 1236+077 | 12 10 59 | 43.9 | 169.9 | -0.5 | | -6.1 | 37 | 669 | 18 04 20 |
| 18 06 50 | --- | 12 13 30 | 44.0 | 170.8 | -0.4 | | -5.6 | 150 | 673 | 18 04 21 |
| 18 07 50 | 1222+037 | 12 14 30 | 40.3 | 176.4 | -0.2 | | -2.2 | 32 | 673 | 18 07 50 |
| 18 10 50 | --- | 12 17 31 | 40.3 | 177.3 | -0.1 | | -1.6 | 180 | 679 | 18 07 51 |
| 18 11 40 | 1226+023 | 12 18 21 | 38.8 | 176.3 | -0.2 | | -2.2 | 31 | 679 | 18 11 40 |
| 18 20 00 | --- | 12 26 42 | 38.9 | 179.0 | -0.1 | | -0.6 | 500 | 695 | 18 11 41 |
| 18 21 40 | 1228+126 | 12 28 22 | 49.2 | 178.8 | -0.1 | | -0.7 | 47 | 695 | 18 21 40 |
| 18 30 10 | --- | 12 36 54 | 49.2 | 182.0 | 0.1 | | 1.2 | 510 | 712 | 18 21 41 |
| 18 30 40 | 1228+126 | 12 37 24 | 49.2 | 182.2 | 0.1 | | 1.3 | 24 | 712 | 18 30 40 |
| 18 40 10 | --- | 12 46 55 | 49.1 | 185.7 | 0.3 | | 3.5 | 570 | 730 | 18 30 41 |
| 18 41 20 | 1236+077 | 12 48 06 | 44.3 | 182.7 | 0.1 | | 1.7 | 38 | 730 | 18 41 20 |
| 18 43 50 | --- | 12 50 36 | 44.3 | 183.6 | 0.2 | | 2.2 | 150 | 735 | 18 41 21 |
| ---------- Space segment 06: L-band VLBI scans ---------- | | | | | | | | | | |
| 18 45 00 | 1228+126 | 12 51 46 | 49.0 | 187.5 | 0.3 | | 4.6 | 38 | 735 | 18 45 00 |
| 19 04 30 | --- | 13 11 19 | 48.4 | 194.7 | 0.7 | | 9.0 | 1170 | 772 | 18 45 01 |
| 19 05 00 | 1228+126 | 13 11 49 | 48.4 | 194.9 | 0.7 | | 9.1 | 24 | 772 | 19 05 00 |
| 19 24 30 | --- | 13 31 23 | 47.5 | 201.9 | 1.0 | | 13.3 | 1170 | 810 | 19 05 01 |
| ---------- L-band GRT-only VLBI scans - segment 07L ---------- | | | | | | | | | | |
| 19 25 30 | 1236+077 | 13 32 23 | 43.1 | 197.9 | 0.9 | | 10.7 | 30 | 810 | 19 25 30 |
| 19 28 00 | --- | 13 34 53 | 43.0 | 198.7 | 0.9 | | 11.2 | 150 | 814 | 19 25 31 |

Schedule for TORUN (Code Tr ) Page 6

The nuclear structure in nearby AGN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 4 Jun 2014 Day 155 --- | | | | | | | | | | |
| 19 29 00 | 1228+126 | 13 35 53 | 47.2 | 203.5 | 1.1 | | 14.2 | 30 | 814 | 19 29 00 |
| 19 38 00 | --- | 13 44 55 | 46.7 | 206.6 | 1.2 | | 16.0 | 540 | 832 | 19 29 01 |
| ---------- Allow time for Kalyazin and Evpatoria to change source ---------- | | | | | | | | | | |
| 19 38 30 | 1228+126 | 13 45 25 | 46.6 | 206.8 | 1.2 | | 16.1 | 24 | 832 | 19 38 30 |
| 19 48 00 | --- | 13 54 56 | 46.0 | 210.0 | 1.4 | | 17.9 | 570 | 850 | 19 38 31 |
| 19 49 00 | 1236+077 | 13 55 57 | 41.8 | 205.6 | 1.3 | | 15.2 | 31 | 850 | 19 49 00 |
| 19 51 30 | --- | 13 58 27 | 41.6 | 206.4 | 1.3 | | 15.6 | 150 | 855 | 19 49 01 |
| 19 52 30 | 1222+037 | 13 59 27 | 36.7 | 209.7 | 1.6 | | 17.3 | 28 | 855 | 19 52 30 |
| 19 55 30 | --- | 14 02 28 | 36.5 | 210.6 | 1.6 | | 17.8 | 180 | 861 | 19 52 31 |
| 19 57 00 | 1228+126 | 14 03 58 | 45.2 | 213.0 | 1.5 | | 19.5 | 43 | 861 | 19 57 00 |
| 20 05 30 | --- | 14 12 29 | 44.5 | 215.7 | 1.7 | | 21.0 | 510 | 877 | 19 57 01 |
| 20 06 00 | 1228+126 | 14 12 59 | 44.5 | 215.9 | 1.7 | | 21.1 | 24 | 877 | 20 06 00 |
| 20 15 30 | --- | 14 22 31 | 43.6 | 218.9 | 1.8 | | 22.7 | 570 | 895 | 20 06 01 |
| 20 16 30 | 1236+077 | 14 23 31 | 39.7 | 214.2 | 1.7 | | 19.9 | 32 | 895 | 20 16 30 |
| 20 19 00 | --- | 14 26 02 | 39.5 | 215.0 | 1.8 | | 20.3 | 150 | 900 | 20 16 31 |
| 20 20 00 | 1228+126 | 14 27 02 | 43.2 | 220.3 | 1.9 | | 23.4 | 32 | 900 | 20 20 00 |
| 20 29 20 | --- | 14 36 23 | 42.2 | 223.1 | 2.1 | | 24.9 | 560 | 918 | 20 20 01 |
| ---------- Space segment 07: L-band VLBI scans ---------- | | | | | | | | | | |
| 20 30 00 | 1228+126 | 14 37 03 | 42.2 | 223.3 | 2.1 | | 24.9 | 34 | 918 | 20 30 00 |
| 20 49 30 | --- | 14 56 37 | 40.1 | 229.0 | 2.4 | | 27.6 | 1170 | 955 | 20 30 01 |
| 20 50 00 | 1228+126 | 14 57 07 | 40.0 | 229.2 | 2.4 | | 27.7 | 24 | 955 | 20 50 00 |
| 21 09 30 | --- | 15 16 40 | 37.7 | 234.5 | 2.8 | | 30.0 | 1170 | 993 | 20 50 01 |
| ---------- L-band GRT-only VLBI scans - segment 08L ---------- | | | | | | | | | | |
| 21 10 30 | 1236+077 | 15 17 40 | 34.3 | 229.6 | 2.6 | | 27.5 | 34 | 993 | 21 10 30 |
| 21 13 00 | --- | 15 20 10 | 34.0 | 230.3 | 2.7 | | 27.8 | 150 | 998 | 21 10 31 |
| 21 14 00 | 1228+126 | 15 21 11 | 37.1 | 235.7 | 2.8 | | 30.5 | 34 | 998 | 21 14 00 |
| 21 24 00 | --- | 15 31 12 | 35.9 | 238.3 | 3.0 | | 31.5 | 600 | 1017 | 21 14 01 |
| ---------- Allow time for Kalyazin and Evpatoria to change source ---------- | | | | | | | | | | |
| 21 24 30 | 1228+126 | 15 31 42 | 35.8 | 238.5 | 3.0 | | 31.6 | 24 | 1017 | 21 24 30 |
| 21 34 00 | --- | 15 41 14 | 34.6 | 240.9 | 3.2 | | 32.5 | 570 | 1035 | 21 24 31 |

Schedule for TORUN (Code Tr ) Page 7

The nuclear structure in nearby AGN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 4 Jun 2014 Day 155 --- | | | | | | | | | | |
| 21 35 00 | 1236+077 | 15 42 14 | 31.4 | 236.0 | 3.0 | | 30.1 | 34 | 1035 | 21 35 00 |
| 21 37 30 | --- | 15 44 44 | 31.1 | 236.6 | 3.1 | | 30.4 | 150 | 1040 | 21 35 01 |
| 21 38 30 | 1222+037 | 15 45 45 | 25.7 | 238.1 | 3.3 | | 30.7 | 26 | 1040 | 21 38 30 |
| 21 41 30 | --- | 15 48 45 | 25.3 | 238.8 | 3.4 | | 31.0 | 180 | 1046 | 21 38 31 |
| 21 43 00 | 1228+126 | 15 50 15 | 33.4 | 243.1 | 3.3 | | 33.2 | 45 | 1046 | 21 43 00 |
| 21 51 30 | --- | 15 58 47 | 32.2 | 245.2 | 3.5 | | 33.9 | 510 | 1062 | 21 43 01 |
| 21 52 00 | 1228+126 | 15 59 17 | 32.2 | 245.3 | 3.5 | | 33.9 | 24 | 1062 | 21 52 00 |
| 22 01 30 | --- | 16 08 48 | 30.8 | 247.6 | 3.6 | | 34.6 | 570 | 1080 | 21 52 01 |
| 22 02 30 | 1236+077 | 16 09 49 | 27.8 | 242.7 | 3.5 | | 32.5 | 35 | 1080 | 22 02 30 |
| 22 05 00 | --- | 16 12 19 | 27.5 | 243.3 | 3.5 | | 32.7 | 150 | 1085 | 22 02 31 |
| 22 06 00 | 1228+126 | 16 13 19 | 30.2 | 248.6 | 3.7 | | 34.9 | 35 | 1085 | 22 06 00 |
| 22 14 30 | --- | 16 21 51 | 29.0 | 250.6 | 3.8 | | 35.4 | 510 | 1102 | 22 06 01 |
| 22 15 00 | 1228+126 | 16 22 21 | 29.0 | 250.7 | 3.8 | | 35.5 | 24 | 1102 | 22 15 00 |
| 22 20 30 | --- | 16 27 52 | 28.2 | 251.9 | 3.9 | | 35.8 | 330 | 1112 | 22 15 01 |
| 22 21 30 | 1236+077 | 16 28 52 | 25.2 | 247.1 | 3.8 | | 33.9 | 35 | 1112 | 22 21 30 |
| 22 24 00 | --- | 16 31 22 | 24.9 | 247.7 | 3.9 | | 34.1 | 150 | 1117 | 22 21 31 |
| ---------- Space segment 08: L-band VLBI scans ---------- | | | | | | | | | | |
| 22 25 00 | 1228+126 | 16 32 22 | 27.5 | 252.9 | 4.0 | | 36.0 | 35 | 1117 | 22 25 00 |
| 22 44 30 | --- | 16 51 55 | 24.7 | 257.2 | 4.3 | | 36.8 | 1170 | 1154 | 22 25 01 |
| 22 45 00 | 1228+126 | 16 52 26 | 24.6 | 257.3 | 4.3 | | 36.8 | 24 | 1154 | 22 45 00 |
| 23 04 30 | --- | 17 11 59 | 21.7 | 261.5 | 4.7 | | 37.4 | 1170 | 1192 | 22 45 01 |
| 23 05 00 | 1228+126 | 17 12 29 | 21.7 | 261.6 | 4.7 | | 37.4 | 24 | 1192 | 23 05 00 |
| 23 24 30 | --- | 17 32 02 | 18.7 | 265.6 | 5.0 | | 37.8 | 1170 | 1229 | 23 05 01 |
| ---------- L-band GRT-only VLBI scans - segment 09L ---------- | | | | | | | | | | |
| 23 26 30 | 1236+077 | 17 34 02 | 15.8 | 261.2 | 4.9 | | 36.8 | 95 | 1229 | 23 26 30 |
| 23 29 00 | --- | 17 36 33 | 15.5 | 261.7 | 4.9 | | 36.8 | 150 | 1234 | 23 26 31 |
| 23 30 00 | 1228+126 | 17 37 33 | 17.9 | 266.7 | 5.1 | | 37.9 | 35 | 1234 | 23 30 00 |
| 23 31 00 | --- | 17 38 33 | 17.8 | 266.9 | 5.1 | | 37.9 | 60 | 1236 | 23 30 01 |
| 23 31 20 | 1228+126 | 17 38 53 | 17.7 | 267.0 | 5.1 | | 37.9 | 14 | 1236 | 23 31 20 |
| 23 41 20 | --- | 17 48 55 | 16.2 | 269.0 | 5.3 | | 37.9 | 600 | 1255 | 23 31 21 |

Schedule for TORUN (Code Tr ) Page 8

The nuclear structure in nearby AGN

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 4 Jun 2014 Day 155 --- | | | | | | | | | | |
| 23 41 40 | 1228+126 | 17 49 15 | 16.2 | 269.1 | 5.3 | | 37.9 | 14 | 1255 | 23 41 40 |
| 23 51 20 | --- | 17 58 56 | 14.7 | 271.0 | 5.5 | | 37.9 | 580 | 1274 | 23 41 41 |
| 23 52 20 | 1236+077 | 17 59 57 | 12.0 | 266.4 | 5.3 | | 37.2 | 36 | 1274 | 23 52 20 |
| 23 54 50 | --- | 18 02 27 | 11.6 | 266.9 | 5.4 | | 37.2 | 150 | 1279 | 23 52 21 |
| 23 56 00 | 1222+037 | 18 03 37 | 6.0 | 267.7 | 5.6 | | 36.9 | 36 | 1279 | 23 56 00 |
| 23 59 00 | --- | 18 06 38 | 5.6 | 268.3 | 5.7 | | 37.0 | 180 | 1285 | 23 56 01 |
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 00 00 00 | 1226+023 | 18 07 38 | 4.9 | 266.7 | 5.6 | | 36.9 | 43 | 1285 | 00 00 00 |
| 00 09 00 | --- | 18 16 39 | 3.6 | 268.5 | 5.8 | | 36.9 | 540 | 1302 | 00 00 01 |
| 00 10 30 | 1228+126 | 18 18 10 | 11.8 | 274.8 | 5.8 | | 37.8 | 45 | 1302 | 00 10 30 |
| 00 13 00 | --- | 18 20 40 | 11.4 | 275.3 | 5.8 | | 37.7 | 150 | 1307 | 00 10 31 |
| 00 13 20 | 1228+126 | 18 21 00 | 11.4 | 275.4 | 5.8 | | 37.7 | 14 | 1307 | 00 13 20 |
| 00 23 30 | --- | 18 31 12 | 9.9 | 277.4 | 6.0 | | 37.6 | 610 | 1326 | 00 13 21 |
| 00 23 50 | 1228+126 | 18 31 32 | 9.8 | 277.5 | 6.0 | | 37.5 | 14 | 1326 | 00 23 50 |
| 00 33 30 | --- | 18 41 13 | 8.4 | 279.4 | 6.2 | | 37.3 | 580 | 1345 | 00 23 51 |
| 00 33 50 | 1228+126 | 18 41 33 | 8.3 | 279.4 | 6.2 | | 37.3 | 14 | 1345 | 00 33 50 |
| 00 43 30 | --- | 18 51 15 | 6.9 | 281.3 | 6.3 | | 37.1 | 580 | 1363 | 00 33 51 |
| 00 53 00 | 1228+126 | 19 00 47 | 5.5 | 283.2 | 6.5 | | 36.8 | 563 | 1363 | 00 53 00 |
| 01 01 40 | --- | 19 09 28 | 4.2 | 284.9 | 6.6 | | 36.4 | 520 | 1380 | 00 53 01 |
| 01 02 00 | 1228+126 | 19 09 48 | 4.2 | 285.0 | 6.6 | | 36.4 | 14 | 1380 | 01 02 00 |
| 01 11 40 | --- | 19 19 30 | 2.8 | 286.9 | 6.8 | D | 36.0 | 0 | 1399 | 01 02 01 |

```
SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: ra18cm2.set
 --- WARNING ---  This group does not match an entry in the frequency catalog.
                  This might be ok because the catalog is not complete.
                  But be very careful to be sure that the setup is correct.

   Setup group:   27         Station: TORUN            Total bit rate:   256
   Format: MARK5B            Bits per sample: 2        Sample rate: 32.000
   Number of channels:  4    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.

   1st LO=   2300.00   2300.00   2300.00   2300.00
   Net SB=         U         U         L         L
   IF SB =         L         L         L         L
   Pol.  =      LCP       RCP       LCP       RCP
   BBC   =         1         5         1         5
   BBC SB=         L         L         U         U
   IF    =        A1        B1        A1        B1

  The following frequency sets based on these setups were used.

   Frequency Set:  13  Setup file default.  Used with PCAL = 1MHz
   LO sum=   1668.00  1668.00  1668.00  1668.00
   BBC fr=    632.00   632.00   632.00   632.00
   Bandwd=     16.00    16.00    16.00    16.00
    Matching frequency sets:  13

   Track assignments are:
    track1=   6,  8,  2,  4
    barrel=roll_off



 POSITIONS OF SOURCES USED IN RECORDING SCANS

   Source                        Source position (RA/Dec)                        Error
                        (B1950)            (J2000)            (Date)            (mas)

   J1239+0730        12 36 52.308755   * 12 39 24.588327     12 40 09.440650       0.10
 * 1236+077          07 46 45.39997    * 07 30 17.18902      07 25 31.24531        0.11

   J1224+0330        12 22 19.097169   * 12 24 52.421935     12 25 37.543272       0.11
 * 1222+037          03 47 27.06583    * 03 30 50.29268      03 25 59.94064        0.13

 * 1226+023          12 26 33.245835   * 12 29 06.699731     12 29 51.900411       0.00
   3C273             02 19 43.30547    * 02 03 08.59797      01 58 18.56773        0.00

 * 1228+126          12 28 17.569280   * 12 30 49.423382     12 31 34.048480       0.00
   VIR-A             12 40 01.74883    * 12 23 28.04365      12 18 41.71051        0.00
```

# cl14l2tr.snp — kalibracyjny eksperyment lokalny

Przykład nowego formatu plików typu cl*.snp dla Mark5B + DBBC, w ktrym pomiary robione są co 4 MHz w zakresie od 1600 do 1728 MHz na obu polaryzacjach (IFa — RCP, IFb — LCP) i w pasmach o szerokości 1 MHz (USB i LSB). Źródła Cygnus A i Virgo A dają dobry kształt przebiegu Tcal(freq), ale ze względu na ich rozciągłość do absolutnej kalibracji trzeba używać 3c123, 3c218 lub innych punktowych.

```
azeloff=0d,0d
source=cygnusa,64655.5,231532.4,2014.215,neutral
"source=3c218,091541.30,-115305.0,1950.0,neutral
"source=virgoa,122817.00,+123957.00,1950.0,neutral
"source=3c123,043355.60,293351.84,1950.0,neutral
" 2300MHz - {1728 do 1600} = 572 do 700; pokrycie pasma EVN co 32 MHz na RCP i LCP
ifa=4,agc,1,40000
ifb=4,agc,1,40000
!+2s
"
bbc01=572.00,a,1.0,1
bbc02=604.00,a,1.0,1
bbc03=636.00,a,1.0,1
bbc04=668.00,a,1.0,1
bbc05=572.00,b,1.0,1
bbc06=604.00,b,1.0,1
bbc07=636.00,b,1.0,1
bbc08=668.00,b,1.0,1
"
onsource
antenna=setlo,2300.000
!+1s
lo=loa,2300,lsb,rcp,1.00
lo=lob,2300,lsb,lcp,1.00
caltsys
halt
onsource
onoff=1,3,75,3,,600,ia,ib,1u,1l,2u,2l,3u,3l,4u,4l,5u,5l,6u,6l,7u,7l,8u,8l
!+1s
onoff
!+1m
azeloff=0d,0d
!+10s
"
" Ponizej zageszczenie w czestosci do co 8 MHz
onsource
" 2300 - 8 = 2292
antenna=setlo,2268.000
!+1s
lo=loa,2292,lsb,rcp,1.00
lo=lob,2292,lsb,lcp,1.00
onoff
!+1m
azeloff=0d,0d
!+10s
"
onsource
" 2300 - 16 = 2268
antenna=setlo,2268.000
!+1s
lo=loa,2268,lsb,rcp,1.00
lo=lob,2268,lsb,lcp,1.00
onoff
!+1m
azeloff=0d,0d
```

```
!+10s
"
onsource
" 2300 - 24 = 2276
antenna=setlo,2276.000
!+1s
lo=loa,2276,lsb,rcp,1.00
lo=lob,2276,lsb,lcp,1.00
onoff
!+1m
azeloff=0d,0d
!+10s
"
" Ponizej zageszczenie w czestosci do co 4 MHz
onsource
" 2300 - 4 = 2296
antenna=setlo,2296.000
!+1s
lo=loa,2296,lsb,rcp,1.00
lo=lob,2296,lsb,lcp,1.00
onoff
!+1m
azeloff=0d,0d
!+10s
"
onsource
" 2300 - 12 = 2288
antenna=setlo,2288.000
!+1s
lo=loa,2288,lsb,rcp,1.00
lo=lob,2288,lsb,lcp,1.00
onoff
!+1m
azeloff=0d,0d
!+10s
"
onsource
" 2300 - 20 = 2280
antenna=setlo,2280.000
!+1s
lo=loa,2280,lsb,rcp,1.00
lo=lob,2280,lsb,lcp,1.00
onoff
!+1m
azeloff=0d,0d
!+10s
"
onsource
" 2300 - 28 = 2272
antenna=setlo,2272.000
!+1s
lo=loa,2272,lsb,rcp,1.00
lo=lob,2272,lsb,lcp,1.00
onoff
!+1m
azeloff=0d,0d
!+10s
"
antenna=setlo,2300.000
sy=brk onoff&
wakeup
sched_end
```

# eg078btr

## Ultra Deep EVN Observations of HDF North

PI: *Michael Garrett*

Address: ASTRON Postbus 2 7990 AA Dwingeloo The Netherlands
Phone: +31-521-595126 EMAIL: garrett@astron.nl

Notes: Ef & Jb use the vex file eg078b.vex.EfJb
The small telescopes use the vex file eg078b.vex.WbOnNtTrSvZcBdSh

Schedule for TORUN (Code Tr ) Page 2
Ultra Deep EVN Observations of HDF North
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| Next scan frequencies: | | 1610.49 | 1610.49 | 1610.49 | 1610.49 | 1642.49 | 1642.49 | 1642.49 | 1642.49 | |
| | | 1674.49 | 1674.49 | 1674.49 | 1674.49 | 1706.49 | 1706.49 | 1706.49 | 1706.49 | |
| Next BBC frequencies: | | 689.51 | 689.51 | 689.51 | 689.51 | 657.51 | 657.51 | 657.51 | 657.51 | |
| | | 625.51 | 625.51 | 625.51 | 625.51 | 593.51 | 593.51 | 593.51 | 593.51 | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | |
| | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | |
| 08 00 00 | J1241+602 | 02 08 57 | 24.7 | 11.6-10.6 | | | -14.1 | 0 | 0 | 08 00 00 |
| 08 05 00 | --- | 02 13 58 | 24.8 | 12.3-10.5 | | | -15.0 | 300 | 38 | 08 00 01 |
| 08 05 30 | J1241+602 | 02 14 28 | 24.9 | 12.4-10.5 | | | -15.0 | 24 | 38 | 08 05 30 |
| 08 07 00 | --- | 02 15 58 | 24.9 | 12.6-10.4 | | | -15.3 | 90 | 50 | 08 05 31 |
| 08 07 10 | J1234+619 | 02 16 08 | 26.7 | 13.0-10.3 | | | -16.7 | -11 | 50 | 08 07 10 |
| 08 08 40 | --- | 02 17 38 | 26.8 | 13.2-10.3 | | | -17.0 | 79 | 62 | 08 07 11 |
| 08 08 40 | EFJB-P1 | 02 17 38 | 26.9 | 12.8-10.3 | | | -16.6 | -11 | 62 | No stop |
| 08 16 10 | --- | 02 25 09 | 27.2 | 13.8-10.2 | | | -17.8 | 439 | 119 | 08 08 41 |
| 08 16 30 | J1234+619 | 02 25 29 | 27.1 | 14.2-10.2 | | | -18.2 | 9 | 119 | 08 16 30 |
| 08 18 00 | --- | 02 27 00 | 27.1 | 14.4-10.1 | | | -18.5 | 90 | 131 | 08 16 31 |
| 08 18 00 | EFJB-P1 | 02 27 00 | 27.2 | 14.0-10.2 | | | -18.1 | -11 | 131 | No stop |
| 08 25 30 | --- | 02 34 31 | 27.5 | 14.9-10.0 | | | -19.3 | 439 | 188 | 08 18 01 |
| 08 25 30 | J1234+619 | 02 34 31 | 27.4 | 15.3-10.0 | | | -19.7 | -11 | 188 | No stop |
| 08 27 00 | --- | 02 36 01 | 27.5 | 15.5-10.0 | | | -20.0 | 79 | 200 | 08 25 31 |
| 08 27 00 | EFJB-P1 | 02 36 01 | 27.6 | 15.1-10.0 | | | -19.6 | -11 | 200 | No stop |
| 08 34 30 | --- | 02 43 32 | 27.9 | 16.0 -9.9 | | | -20.8 | 439 | 258 | 08 27 01 |
| 08 35 00 | J1241+602 | 02 44 02 | 26.0 | 16.2-10.0 | | | -19.8 | 9 | 258 | 08 35 00 |
| 08 36 30 | --- | 02 45 33 | 26.0 | 16.4 -9.9 | | | -20.0 | 90 | 269 | 08 35 01 |

Schedule for TORUN (Code Tr ) Page 3

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 08 36 40 | J1234+619 | 02 45 43 | 27.9 | 16.7 | -9.8 | | -21.5 | -11 | 269 | 08 36 40 |
| 08 38 10 | --- | 02 47 13 | 27.9 | 16.9 | -9.8 | | -21.8 | 79 | 281 | 08 36 41 |
| 08 38 10 | EFJB-P2 | 02 47 13 | 28.0 | 16.5 | -9.8 | | -21.4 | -11 | 281 | No stop |
| 08 45 40 | --- | 02 54 44 | 28.4 | 17.4 | -9.7 | | -22.6 | 439 | 338 | 08 38 11 |
| 08 46 00 | J1234+619 | 02 55 04 | 28.3 | 17.9 | -9.7 | | -23.1 | 9 | 338 | 08 46 00 |
| 08 47 30 | --- | 02 56 35 | 28.4 | 18.1 | -9.6 | | -23.3 | 90 | 350 | 08 46 01 |
| 08 47 30 | EFJB-P2 | 02 56 35 | 28.5 | 17.6 | -9.7 | | -22.9 | -11 | 350 | No stop |
| 08 55 00 | --- | 03 04 06 | 28.8 | 18.6 | -9.6 | | -24.1 | 439 | 408 | 08 47 31 |
| 08 55 00 | J1234+619 | 03 04 06 | 28.7 | 19.0 | -9.5 | | -24.5 | -11 | 408 | No stop |
| 08 56 30 | --- | 03 05 36 | 28.8 | 19.2 | -9.5 | | -24.8 | 79 | 419 | 08 55 01 |
| 08 56 30 | EFJB-P2 | 03 05 36 | 28.9 | 18.7 | -9.5 | | -24.4 | -11 | 419 | No stop |
| 09 04 00 | --- | 03 13 07 | 29.2 | 19.7 | -9.4 | | -25.6 | 439 | 477 | 08 56 31 |
| 09 04 30 | J1241+602 | 03 13 37 | 27.3 | 20.0 | -9.5 | | -24.5 | 9 | 477 | 09 04 30 |
| 09 06 00 | --- | 03 15 08 | 27.4 | 20.2 | -9.5 | | -24.8 | 90 | 488 | 09 04 31 |
| 09 06 10 | J1234+619 | 03 15 18 | 29.3 | 20.4 | -9.3 | | -26.3 | -11 | 488 | 09 06 10 |
| 09 07 40 | --- | 03 16 48 | 29.4 | 20.5 | -9.3 | | -26.6 | 79 | 500 | 09 06 11 |
| 09 07 40 | EFJB-P3 | 03 16 48 | 29.4 | 20.1 | -9.3 | | -26.2 | -11 | 500 | No stop |
| 09 15 10 | --- | 03 24 19 | 29.8 | 21.0 | -9.2 | | -27.4 | 439 | 558 | 09 07 41 |
| 09 15 30 | J1234+619 | 03 24 39 | 29.8 | 21.5 | -9.2 | | -27.8 | 9 | 558 | 09 15 30 |
| 09 17 00 | --- | 03 26 09 | 29.9 | 21.7 | -9.1 | | -28.1 | 90 | 569 | 09 15 31 |
| 09 17 00 | EFJB-P3 | 03 26 09 | 29.9 | 21.2 | -9.2 | | -27.7 | -11 | 569 | No stop |
| 09 24 30 | --- | 03 33 41 | 30.3 | 22.1 | -9.1 | | -28.9 | 439 | 627 | 09 17 01 |
| 09 24 30 | J1234+619 | 03 33 41 | 30.3 | 22.6 | -9.0 | | -29.3 | -11 | 627 | No stop |
| 09 26 00 | --- | 03 35 11 | 30.4 | 22.7 | -9.0 | | -29.5 | 79 | 638 | 09 24 31 |
| 09 26 00 | EFJB-P3 | 03 35 11 | 30.4 | 22.3 | -9.0 | | -29.2 | -11 | 638 | No stop |
| 09 33 30 | --- | 03 42 42 | 30.9 | 23.2 | -8.9 | | -30.4 | 439 | 696 | 09 26 01 |
| 09 34 00 | J1241+602 | 03 43 12 | 29.0 | 23.8 | -9.0 | | -29.2 | 9 | 696 | 09 34 00 |
| 09 35 30 | --- | 03 44 42 | 29.1 | 23.9 | -9.0 | | -29.4 | 90 | 708 | 09 34 01 |
| 09 35 40 | J1234+619 | 03 44 52 | 31.0 | 23.9 | -8.8 | | -31.1 | -11 | 708 | 09 35 40 |
| 09 37 10 | --- | 03 46 23 | 31.0 | 24.1 | -8.8 | | -31.3 | 79 | 719 | 09 35 41 |
| 09 37 10 | EFJB-P4 | 03 46 23 | 31.1 | 23.6 | -8.9 | | -31.0 | -11 | 719 | No stop |
| 09 44 40 | --- | 03 53 54 | 31.6 | 24.5 | -8.7 | | -32.2 | 439 | 777 | 09 37 11 |

Schedule for TORUN (Code Tr ) Page 4

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 09 45 00 | J1234+619 | 03 54 14 | 31.5 | 25.0 | -8.7 | | -32.6 | 9 | 777 | 09 45 00 |
| 09 46 30 | --- | 03 55 44 | 31.6 | 25.2 | -8.7 | | -32.8 | 90 | 788 | 09 45 01 |
| 09 46 30 | EFJB-P4 | 03 55 44 | 31.7 | 24.7 | -8.7 | | -32.5 | -11 | 788 | No stop |
| 09 54 00 | --- | 04 03 15 | 32.1 | 25.6 | -8.6 | | -33.7 | 439 | 846 | 09 46 31 |
| 09 54 00 | J1234+619 | 04 03 15 | 32.1 | 26.0 | -8.5 | | -34.0 | -11 | 846 | No stop |
| 09 55 30 | --- | 04 04 46 | 32.2 | 26.2 | -8.5 | | -34.3 | 79 | 858 | 09 54 01 |
| 09 55 30 | EFJB-P4 | 04 04 46 | 32.2 | 25.7 | -8.5 | | -33.9 | -11 | 858 | No stop |
| 10 03 00 | --- | 04 12 17 | 32.7 | 26.6 | -8.4 | | -35.1 | 439 | 915 | 09 55 31 |
| 10 03 30 | J1241+602 | 04 12 47 | 30.9 | 27.4 | -8.5 | | -33.8 | 9 | 915 | 10 03 30 |
| 10 05 00 | --- | 04 14 17 | 31.0 | 27.5 | -8.5 | | -34.0 | 90 | 927 | 10 03 31 |
| 10 05 10 | J1234+619 | 04 14 27 | 32.9 | 27.3 | -8.3 | | -35.8 | -11 | 927 | 10 05 10 |
| 10 06 40 | --- | 04 15 58 | 33.0 | 27.5 | -8.3 | | -36.0 | 79 | 938 | 10 05 11 |
| 10 06 40 | HDF-N | 04 15 58 | 33.0 | 27.0 | -8.4 | | -35.7 | -11 | 938 | No stop |
| 10 14 10 | --- | 04 23 29 | 33.5 | 27.9 | -8.2 | | -36.9 | 439 | 996 | 10 06 41 |
| 10 14 30 | J1234+619 | 04 23 49 | 33.5 | 28.4 | -8.2 | | -37.3 | 9 | 996 | 10 14 30 |
| 10 16 00 | --- | 04 25 19 | 33.6 | 28.5 | -8.2 | | -37.5 | 90 | 1008 | 10 14 31 |
| 10 16 00 | HDF-N | 04 25 19 | 33.6 | 28.1 | -8.2 | | -37.2 | -11 | 1008 | No stop |
| 10 23 30 | --- | 04 32 50 | 34.2 | 28.9 | -8.1 | | -38.4 | 439 | 1065 | 10 16 01 |
| 10 23 30 | J1234+619 | 04 32 50 | 34.2 | 29.4 | -8.0 | | -38.7 | -11 | 1065 | No stop |
| 10 25 00 | --- | 04 34 21 | 34.3 | 29.5 | -8.0 | | -39.0 | 79 | 1077 | 10 23 31 |
| 10 25 00 | HDF-N | 04 34 21 | 34.3 | 29.1 | -8.1 | | -38.6 | -11 | 1077 | No stop |
| 10 32 30 | --- | 04 41 52 | 34.8 | 29.9 | -7.9 | | -39.8 | 439 | 1135 | 10 25 01 |
| 10 33 00 | J1241+602 | 04 42 22 | 33.1 | 30.9 | -8.0 | | -38.4 | 10 | 1135 | 10 33 00 |
| 10 34 30 | --- | 04 43 52 | 33.2 | 31.0 | -8.0 | | -38.6 | 90 | 1146 | 10 33 01 |
| 10 34 40 | J1234+619 | 04 44 02 | 35.0 | 30.6 | -7.8 | | -40.5 | -11 | 1146 | 10 34 40 |
| 10 36 10 | --- | 04 45 32 | 35.1 | 30.8 | -7.8 | | -40.7 | 79 | 1158 | 10 34 41 |
| 10 36 10 | EFJB-P1 | 04 45 32 | 35.1 | 30.3 | -7.9 | | -40.4 | -11 | 1158 | No stop |
| 10 43 40 | --- | 04 53 04 | 35.7 | 31.1 | -7.7 | | -41.6 | 439 | 1215 | 10 36 11 |
| 10 44 00 | J1234+619 | 04 53 24 | 35.7 | 31.6 | -7.7 | | -42.0 | 9 | 1215 | 10 44 00 |
| 10 45 30 | --- | 04 54 54 | 35.9 | 31.8 | -7.7 | | -42.2 | 90 | 1227 | 10 44 01 |
| 10 45 30 | EFJB-P1 | 04 54 54 | 35.8 | 31.3 | -7.7 | | -41.9 | -11 | 1227 | No stop |
| 10 53 00 | --- | 05 02 25 | 36.4 | 32.1 | -7.6 | | -43.1 | 439 | 1285 | 10 45 31 |

Schedule for TORUN (Code Tr ) Page 5

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 10 53 00 | J1234+619 | 05 02 25 | 36.5 | 32.6 | -7.5 | | -43.4 | -11 | 1285 | No stop |
| 10 54 30 | --- | 05 03 55 | 36.6 | 32.8 | -7.5 | | -43.6 | 79 | 1296 | 10 53 01 |
| 10 54 30 | EFJB-P1 | 05 03 55 | 36.6 | 32.3 | -7.6 | | -43.3 | -11 | 1296 | No stop |
| 11 02 00 | --- | 05 11 27 | 37.2 | 33.1 | -7.4 | | -44.5 | 439 | 1354 | 10 54 31 |
| 11 02 30 | J1241+602 | 05 11 57 | 35.5 | 34.2 | -7.5 | | -42.9 | 10 | 1354 | 11 02 30 |
| 11 04 00 | --- | 05 13 27 | 35.6 | 34.4 | -7.5 | | -43.1 | 90 | 1365 | 11 02 31 |
| 11 04 10 | J1234+619 | 05 13 37 | 37.4 | 33.8 | -7.4 | | -45.1 | -11 | 1365 | 11 04 10 |
| 11 05 40 | --- | 05 15 07 | 37.5 | 33.9 | -7.3 | | -45.4 | 79 | 1377 | 11 04 11 |
| 11 05 40 | EFJB-P2 | 05 15 07 | 37.5 | 33.4 | -7.4 | | -45.1 | -11 | 1377 | No stop |
| 11 13 10 | --- | 05 22 38 | 38.1 | 34.2 | -7.2 | | -46.3 | 439 | 1435 | 11 05 41 |
| 11 13 30 | J1234+619 | 05 22 59 | 38.2 | 34.7 | -7.2 | | -46.6 | 9 | 1435 | 11 13 30 |
| 11 15 00 | --- | 05 24 29 | 38.3 | 34.9 | -7.2 | | -46.8 | 90 | 1446 | 11 13 31 |
| 11 15 00 | EFJB-P2 | 05 24 29 | 38.2 | 34.4 | -7.2 | | -46.6 | -11 | 1446 | No stop |
| 11 22 30 | --- | 05 32 00 | 38.9 | 35.2 | -7.1 | | -47.8 | 439 | 1504 | 11 15 01 |
| 11 22 30 | J1234+619 | 05 32 00 | 39.0 | 35.7 | -7.0 | | -48.0 | -11 | 1504 | No stop |
| 11 24 00 | --- | 05 33 30 | 39.1 | 35.8 | -7.0 | | -48.3 | 79 | 1515 | 11 22 31 |
| 11 24 00 | EFJB-P2 | 05 33 30 | 39.0 | 35.3 | -7.1 | | -48.0 | -11 | 1515 | No stop |
| 11 31 30 | --- | 05 41 01 | 39.7 | 36.1 | -6.9 | | -49.2 | 439 | 1573 | 11 24 01 |
| 11 32 00 | J1241+602 | 05 41 32 | 38.1 | 37.4 | -7.0 | | -47.4 | 10 | 1573 | 11 32 00 |
| 11 33 30 | --- | 05 43 02 | 38.2 | 37.6 | -7.0 | | -47.6 | 90 | 1585 | 11 32 01 |
| 11 33 40 | J1234+619 | 05 43 12 | 40.0 | 36.8 | -6.9 | | -49.8 | -10 | 1585 | 11 33 40 |
| 11 35 10 | --- | 05 44 42 | 40.1 | 36.9 | -6.8 | | -50.0 | 80 | 1596 | 11 33 41 |
| 11 35 10 | EFJB-P3 | 05 44 42 | 40.0 | 36.4 | -6.9 | | -49.8 | -11 | 1596 | No stop |
| 11 42 40 | --- | 05 52 13 | 40.7 | 37.2 | -6.8 | | -50.9 | 439 | 1654 | 11 35 11 |
| 11 43 00 | J1234+619 | 05 52 33 | 40.8 | 37.7 | -6.7 | | -51.2 | 9 | 1654 | 11 43 00 |
| 11 44 30 | --- | 05 54 04 | 40.9 | 37.9 | -6.7 | | -51.5 | 90 | 1665 | 11 43 01 |
| 11 44 30 | EFJB-P3 | 05 54 04 | 40.9 | 37.4 | -6.7 | | -51.2 | -11 | 1665 | No stop |
| 11 52 00 | --- | 06 01 35 | 41.5 | 38.1 | -6.6 | | -52.4 | 439 | 1723 | 11 44 31 |
| 11 52 00 | J1234+619 | 06 01 35 | 41.6 | 38.6 | -6.6 | | -52.7 | -11 | 1723 | No stop |
| 11 53 30 | --- | 06 03 05 | 41.8 | 38.7 | -6.5 | | -52.9 | 79 | 1735 | 11 52 01 |
| 11 53 30 | EFJB-P3 | 06 03 05 | 41.7 | 38.2 | -6.6 | | -52.7 | -11 | 1735 | No stop |
| 12 01 00 | --- | 06 10 36 | 42.4 | 38.9 | -6.4 | | -53.8 | 439 | 1792 | 11 53 31 |

Schedule for TORUN (Code Tr ) Page 6

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 12 01 30 | J1241+602 | 06 11 06 | 40.9 | 40.5 | -6.5 | | -51.9 | 11 | 1792 | 12 01 30 |
| 12 03 00 | --- | 06 12 37 | 41.0 | 40.7 | -6.5 | | -52.1 | 90 | 1804 | 12 01 31 |
| 12 03 10 | J1234+619 | 06 12 47 | 42.7 | 39.6 | -6.4 | | -54.4 | -10 | 1804 | 12 03 10 |
| 12 04 40 | --- | 06 14 17 | 42.8 | 39.8 | -6.3 | | -54.7 | 80 | 1815 | 12 03 11 |
| 12 04 40 | EFJB-P4 | 06 14 17 | 42.7 | 39.3 | -6.4 | | -54.4 | -11 | 1815 | No stop |
| 12 12 10 | --- | 06 21 48 | 43.5 | 40.0 | -6.3 | | -55.6 | 439 | 1873 | 12 04 41 |
| 12 12 30 | J1234+619 | 06 22 08 | 43.6 | 40.5 | -6.2 | | -55.9 | 9 | 1873 | 12 12 30 |
| 12 14 00 | --- | 06 23 38 | 43.8 | 40.6 | -6.2 | | -56.1 | 90 | 1885 | 12 12 31 |
| 12 14 00 | EFJB-P4 | 06 23 38 | 43.6 | 40.1 | -6.2 | | -55.9 | -11 | 1885 | No stop |
| 12 21 30 | --- | 06 31 10 | 44.4 | 40.8 | -6.1 | | -57.1 | 439 | 1942 | 12 14 01 |
| 12 21 30 | J1234+619 | 06 31 10 | 44.5 | 41.3 | -6.1 | | -57.3 | -11 | 1942 | No stop |
| 12 23 00 | --- | 06 32 40 | 44.6 | 41.4 | -6.0 | | -57.6 | 79 | 1954 | 12 21 31 |
| 12 23 00 | EFJB-P4 | 06 32 40 | 44.5 | 40.9 | -6.1 | | -57.3 | -11 | 1954 | No stop |
| 12 30 30 | --- | 06 40 11 | 45.3 | 41.6 | -6.0 | | -58.5 | 439 | 2012 | 12 23 01 |
| 12 31 00 | J1241+602 | 06 40 41 | 43.8 | 43.4 | -6.0 | | -56.3 | 11 | 2012 | 12 31 00 |
| 12 32 30 | --- | 06 42 11 | 44.0 | 43.6 | -6.0 | | -56.6 | 90 | 2023 | 12 31 01 |
| 12 32 40 | J1234+619 | 06 42 22 | 45.6 | 42.3 | -5.9 | | -59.1 | -10 | 2023 | 12 32 40 |
| 12 34 10 | --- | 06 43 52 | 45.8 | 42.4 | -5.8 | | -59.3 | 80 | 2035 | 12 32 41 |
| 12 34 10 | HDF-N | 06 43 52 | 45.6 | 41.9 | -5.9 | | -59.1 | -11 | 2035 | No stop |
| 12 41 40 | --- | 06 51 23 | 46.4 | 42.5 | -5.8 | | -60.3 | 439 | 2092 | 12 34 11 |
| 12 42 00 | J1234+619 | 06 51 43 | 46.6 | 43.1 | -5.7 | | -60.6 | 8 | 2092 | 12 42 00 |
| 12 43 30 | --- | 06 53 13 | 46.7 | 43.2 | -5.7 | | -60.8 | 90 | 2104 | 12 42 01 |
| 12 43 30 | HDF-N | 06 53 13 | 46.6 | 42.7 | -5.7 | | -60.6 | -11 | 2104 | No stop |
| 12 51 00 | --- | 07 00 45 | 47.3 | 43.3 | -5.6 | | -61.8 | 439 | 2162 | 12 43 31 |
| 12 51 00 | J1234+619 | 07 00 45 | 47.5 | 43.8 | -5.6 | | -62.0 | -12 | 2162 | No stop |
| 12 52 30 | --- | 07 02 15 | 47.7 | 44.0 | -5.5 | | -62.3 | 78 | 2173 | 12 51 01 |
| 12 52 30 | HDF-N | 07 02 15 | 47.5 | 43.4 | -5.6 | | -62.1 | -11 | 2173 | No stop |
| 13 00 00 | --- | 07 09 46 | 48.3 | 44.0 | -5.5 | | -63.3 | 439 | 2231 | 12 52 31 |
| 13 00 30 | J1241+602 | 07 10 16 | 47.0 | 46.1 | -5.5 | | -60.8 | 12 | 2231 | 13 00 30 |
| 13 02 00 | --- | 07 11 46 | 47.1 | 46.3 | -5.5 | | -61.1 | 90 | 2242 | 13 00 31 |
| 13 02 10 | J1234+619 | 07 11 56 | 48.7 | 44.7 | -5.4 | | -63.8 | -9 | 2242 | 13 02 10 |
| 13 03 40 | --- | 07 13 27 | 48.8 | 44.9 | -5.4 | | -64.1 | 81 | 2254 | 13 02 11 |

Schedule for TORUN (Code Tr ) Page 7

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 13 03 40 | EFJB-P1 | 07 13 27 | 48.7 | 44.3 | -5.4 | | -63.9 | -11 | 2254 | No stop |
| 13 11 10 | --- | 07 20 58 | 49.5 | 44.9 | -5.3 | | -65.1 | 439 | 2312 | 13 03 41 |
| 13 11 30 | J1234+619 | 07 21 18 | 49.7 | 45.5 | -5.2 | | -65.3 | 8 | 2312 | 13 11 30 |
| 13 13 00 | --- | 07 22 48 | 49.8 | 45.6 | -5.2 | | -65.6 | 90 | 2323 | 13 11 31 |
| 13 13 00 | EFJB-P1 | 07 22 48 | 49.6 | 45.0 | -5.2 | | -65.4 | -12 | 2323 | No stop |
| 13 20 30 | --- | 07 30 19 | 50.5 | 45.6 | -5.1 | | -66.7 | 438 | 2381 | 13 13 01 |
| 13 20 30 | J1234+619 | 07 30 19 | 50.6 | 46.1 | -5.1 | | -66.8 | -12 | 2381 | No stop |
| 13 22 00 | --- | 07 31 50 | 50.8 | 46.3 | -5.1 | | -67.1 | 78 | 2392 | 13 20 31 |
| 13 22 00 | EFJB-P1 | 07 31 50 | 50.6 | 45.7 | -5.1 | | -66.9 | -12 | 2392 | No stop |
| 13 29 30 | --- | 07 39 21 | 51.4 | 46.2 | -5.0 | | -68.1 | 438 | 2450 | 13 22 01 |
| 13 30 00 | J1241+602 | 07 39 51 | 50.2 | 48.7 | -5.0 | | -65.4 | 11 | 2450 | 13 30 00 |
| 13 31 30 | --- | 07 41 21 | 50.4 | 48.8 | -5.0 | | -65.6 | 90 | 2462 | 13 30 01 |
| 13 31 40 | J1234+619 | 07 41 31 | 51.9 | 46.9 | -4.9 | | -68.7 | -9 | 2462 | 13 31 40 |
| 13 33 10 | --- | 07 43 01 | 52.0 | 47.0 | -4.9 | | -68.9 | 81 | 2473 | 13 31 41 |
| 13 33 10 | EFJB-P2 | 07 43 01 | 51.8 | 46.5 | -4.9 | | -68.8 | -12 | 2473 | No stop |
| 13 40 40 | --- | 07 50 33 | 52.6 | 47.0 | -4.8 | | -70.0 | 438 | 2531 | 13 33 11 |
| 13 41 00 | J1234+619 | 07 50 53 | 52.9 | 47.6 | -4.7 | | -70.2 | 8 | 2531 | 13 41 00 |
| 13 42 30 | --- | 07 52 23 | 53.1 | 47.7 | -4.7 | | -70.5 | 90 | 2542 | 13 41 01 |
| 13 42 30 | EFJB-P2 | 07 52 23 | 52.8 | 47.1 | -4.8 | | -70.3 | -12 | 2542 | No stop |
| 13 50 00 | --- | 07 59 54 | 53.7 | 47.6 | -4.6 | | -71.6 | 438 | 2600 | 13 42 31 |
| 13 50 00 | J1234+619 | 07 59 54 | 53.9 | 48.2 | -4.6 | | -71.7 | -12 | 2600 | No stop |
| 13 51 30 | --- | 08 01 24 | 54.1 | 48.2 | -4.6 | | -72.0 | 78 | 2612 | 13 50 01 |
| 13 51 30 | EFJB-P2 | 08 01 24 | 53.8 | 47.7 | -4.6 | | -71.9 | -12 | 2612 | No stop |
| 13 59 00 | --- | 08 08 56 | 54.7 | 48.1 | -4.5 | | -73.2 | 438 | 2669 | 13 51 31 |
| 13 59 30 | J1241+602 | 08 09 26 | 53.6 | 50.9 | -4.5 | | -70.0 | 10 | 2669 | 13 59 30 |
| 14 01 00 | --- | 08 10 56 | 53.8 | 51.0 | -4.5 | | -70.3 | 90 | 2681 | 13 59 31 |
| 14 01 10 | J1234+619 | 08 11 06 | 55.2 | 48.8 | -4.4 | | -73.7 | -9 | 2681 | 14 01 10 |
| 14 02 40 | --- | 08 12 36 | 55.3 | 48.9 | -4.4 | | -73.9 | 81 | 2692 | 14 01 11 |
| 14 02 40 | EFJB-P3 | 08 12 36 | 55.1 | 48.4 | -4.4 | | -73.8 | -12 | 2692 | No stop |
| 14 10 10 | --- | 08 20 08 | 55.9 | 48.8 | -4.3 | | -75.1 | 438 | 2750 | 14 02 41 |

Schedule for TORUN (Code Tr ) Page 8

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 14 10 30 | J1234+619 | 08 20 28 | 56.2 | 49.4 | -4.2 | | -75.3 | 8 | 2750 | 14 10 30 |
| 14 12 00 | --- | 08 21 58 | 56.4 | 49.4 | -4.2 | | -75.6 | 90 | 2762 | 14 10 31 |
| 14 12 00 | EFJB-P3 | 08 21 58 | 56.1 | 48.9 | -4.3 | | -75.4 | -12 | 2762 | No stop |
| 14 19 30 | --- | 08 29 29 | 57.0 | 49.3 | -4.1 | | -76.8 | 438 | 2819 | 14 12 01 |
| 14 19 30 | J1234+619 | 08 29 29 | 57.2 | 49.8 | -4.1 | | -76.9 | -12 | 2819 | No stop |
| 14 21 00 | --- | 08 30 59 | 57.4 | 49.9 | -4.1 | | -77.2 | 78 | 2831 | 14 19 31 |
| 14 21 00 | EFJB-P3 | 08 30 59 | 57.2 | 49.3 | -4.1 | | -77.1 | -12 | 2831 | No stop |
| 14 28 30 | --- | 08 38 31 | 58.0 | 49.7 | -4.0 | | -78.4 | 438 | 2888 | 14 21 01 |
| 14 29 00 | J1241+602 | 08 39 01 | 57.1 | 52.9 | -4.1 | | -74.8 | 9 | 2888 | 14 29 00 |
| 14 30 30 | --- | 08 40 31 | 57.3 | 52.9 | -4.0 | | -75.1 | 90 | 2900 | 14 29 01 |
| 14 30 40 | J1234+619 | 08 40 41 | 58.5 | 50.3 | -3.9 | | -78.9 | -9 | 2900 | 14 30 40 |
| 14 32 10 | --- | 08 42 11 | 58.7 | 50.4 | -3.9 | | -79.2 | 81 | 2912 | 14 30 41 |
| 14 32 10 | EFJB-P4 | 08 42 11 | 58.5 | 49.8 | -3.9 | | -79.1 | -12 | 2912 | No stop |
| 14 39 40 | --- | 08 49 42 | 59.3 | 50.1 | -3.8 | | -80.5 | 438 | 2969 | 14 32 11 |
| 14 40 00 | J1234+619 | 08 50 02 | 59.6 | 50.7 | -3.7 | | -80.7 | 8 | 2969 | 14 40 00 |
| 14 41 30 | --- | 08 51 33 | 59.8 | 50.8 | -3.7 | | -81.0 | 90 | 2981 | 14 40 01 |
| 14 41 30 | EFJB-P4 | 08 51 33 | 59.5 | 50.2 | -3.8 | | -80.9 | -12 | 2981 | No stop |
| 14 49 00 | --- | 08 59 04 | 60.4 | 50.5 | -3.6 | | -82.3 | 438 | 3038 | 14 41 31 |
| 14 49 00 | J1234+619 | 08 59 04 | 60.7 | 51.0 | -3.6 | | -82.4 | -12 | 3038 | No stop |
| 14 50 30 | --- | 09 00 34 | 60.8 | 51.1 | -3.6 | | -82.7 | 78 | 3050 | 14 49 01 |
| 14 50 30 | EFJB-P4 | 09 00 34 | 60.6 | 50.5 | -3.6 | | -82.6 | -12 | 3050 | No stop |
| 14 58 00 | --- | 09 08 05 | 61.4 | 50.7 | -3.5 | | -84.1 | 438 | 3108 | 14 50 31 |
| 14 58 30 | J1241+602 | 09 08 35 | 60.7 | 54.4 | -3.6 | | -79.9 | 8 | 3108 | 14 58 30 |
| 15 00 00 | --- | 09 10 06 | 60.9 | 54.5 | -3.5 | | -80.2 | 90 | 3119 | 14 58 31 |
| 15 00 10 | J1234+619 | 09 10 16 | 62.0 | 51.3 | -3.4 | | -84.6 | -11 | 3119 | 15 00 10 |
| 15 01 40 | --- | 09 11 46 | 62.2 | 51.4 | -3.4 | | -84.9 | 79 | 3131 | 15 00 11 |
| 15 01 40 | HDF-N | 09 11 46 | 61.9 | 50.8 | -3.4 | | -84.8 | -12 | 3131 | No stop |
| 15 09 10 | --- | 09 19 17 | 62.7 | 51.0 | -3.3 | | -86.3 | 438 | 3188 | 15 01 41 |
| 15 09 30 | J1234+619 | 09 19 37 | 63.1 | 51.5 | -3.3 | | -86.5 | 8 | 3188 | 15 09 30 |
| 15 11 00 | --- | 09 21 08 | 63.3 | 51.6 | -3.2 | | -86.8 | 90 | 3200 | 15 09 31 |

Schedule for TORUN (Code Tr ) Page 9

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 15 11 00 | HDF-N | 09 21 08 | 63.0 | 51.0 | -3.3 | | -86.7 | -12 | 3200 | No stop |
| 15 18 30 | --- | 09 28 39 | 63.8 | 51.1 | -3.1 | | -88.3 | 438 | 3258 | 15 11 01 |
| 15 18 30 | J1234+619 | 09 28 39 | 64.1 | 51.6 | -3.1 | | -88.4 | -12 | 3258 | No stop |
| 15 20 00 | --- | 09 30 09 | 64.3 | 51.6 | -3.1 | | -88.7 | 78 | 3269 | 15 18 31 |
| 15 20 00 | HDF-N | 09 30 09 | 64.0 | 51.1 | -3.1 | | -88.6 | -12 | 3269 | No stop |
| 15 27 30 | --- | 09 37 40 | 64.9 | 51.1 | -3.0 | | -90.3 | 438 | 3327 | 15 20 01 |
| 15 28 00 | J1241+602 | 09 38 10 | 64.3 | 55.4 | -3.1 | | -85.5 | 6 | 3327 | 15 28 00 |
| 15 29 30 | --- | 09 39 41 | 64.5 | 55.4 | -3.0 | | -85.8 | 90 | 3338 | 15 28 01 |
| 15 29 40 | J1234+619 | 09 39 51 | 65.5 | 51.7 | -2.9 | | -90.8 | -12 | 3338 | 15 29 40 |
| 15 31 10 | --- | 09 41 21 | 65.6 | 51.6 | -2.9 | | -91.2 | 78 | 3350 | 15 29 41 |
| 15 31 10 | EFJB-P1 | 09 41 21 | 65.3 | 51.1 | -2.9 | | -91.1 | -12 | 3350 | No stop |
| 15 38 40 | --- | 09 48 52 | 66.2 | 51.0 | -2.8 | | -92.8 | 438 | 3408 | 15 31 11 |
| 15 39 00 | J1234+619 | 09 49 12 | 66.6 | 51.6 | -2.8 | | -93.0 | 8 | 3408 | 15 39 00 |
| 15 40 30 | --- | 09 50 42 | 66.7 | 51.5 | -2.7 | | -93.3 | 90 | 3419 | 15 39 01 |
| 15 40 30 | EFJB-P1 | 09 50 42 | 66.4 | 51.0 | -2.8 | | -93.3 | -12 | 3419 | No stop |
| 15 48 00 | --- | 09 58 14 | 67.3 | 50.8 | -2.7 | | -95.1 | 438 | 3477 | 15 40 31 |
| 15 48 00 | J1234+619 | 09 58 14 | 67.6 | 51.4 | -2.6 | | -95.1 | -12 | 3477 | No stop |
| 15 49 30 | --- | 09 59 44 | 67.8 | 51.3 | -2.6 | | -95.5 | 78 | 3488 | 15 48 01 |
| 15 49 30 | EFJB-P1 | 09 59 44 | 67.5 | 50.8 | -2.6 | | -95.4 | -12 | 3488 | No stop |
| 15 57 00 | --- | 10 07 15 | 68.3 | 50.5 | -2.5 | | -97.3 | 438 | 3546 | 15 49 31 |
| 15 57 30 | J1241+602 | 10 07 45 | 68.0 | 55.6 | -2.6 | | -91.7 | 5 | 3546 | 15 57 30 |
| 15 59 00 | --- | 10 09 15 | 68.2 | 55.6 | -2.5 | | -92.0 | 90 | 3558 | 15 57 31 |
| 15 59 10 | J1234+619 | 10 09 25 | 68.9 | 51.0 | -2.4 | | -98.0 | -14 | 3558 | 15 59 10 |
| 16 00 40 | --- | 10 10 56 | 69.1 | 50.9 | -2.4 | | -98.4 | 76 | 3569 | 15 59 11 |
| 16 00 40 | EFJB-P2 | 10 10 56 | 68.8 | 50.4 | -2.4 | | -98.3 | -12 | 3569 | No stop |
| 16 08 10 | --- | 10 18 27 | 69.6 | 50.0 | -2.3 | | -100.3 | 438 | 3627 | 16 00 41 |
| 16 08 30 | J1234+619 | 10 18 47 | 70.0 | 50.5 | -2.3 | | -100.5 | 8 | 3627 | 16 08 30 |
| 16 10 00 | --- | 10 20 17 | 70.2 | 50.4 | -2.2 | | -100.9 | 90 | 3638 | 16 08 31 |
| 16 10 00 | EFJB-P2 | 10 20 17 | 69.8 | 49.8 | -2.3 | | -100.9 | -12 | 3638 | No stop |
| 16 17 30 | --- | 10 27 48 | 70.7 | 49.3 | -2.2 | | -103.0 | 438 | 3696 | 16 10 01 |

Schedule for TORUN (Code Tr ) Page 10

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 16 17 30 | J1234+619 | 10 27 48 | 71.1 | 49.8 | -2.1 | | -103.1 | -12 | 3696 | No stop |
| 16 19 00 | --- | 10 29 19 | 71.2 | 49.7 | -2.1 | | -103.6 | 78 | 3708 | 16 17 31 |
| 16 19 00 | EFJB-P2 | 10 29 19 | 70.9 | 49.2 | -2.1 | | -103.5 | -12 | 3708 | No stop |
| 16 26 30 | --- | 10 36 50 | 71.7 | 48.5 | -2.0 | | -105.8 | 438 | 3765 | 16 19 01 |
| 16 27 00 | J1241+602 | 10 37 20 | 71.6 | 54.6 | -2.1 | | -99.0 | 3 | 3765 | 16 27 00 |
| 16 28 30 | --- | 10 38 50 | 71.8 | 54.6 | -2.1 | | -99.5 | 90 | 3777 | 16 27 01 |
| 16 28 40 | J1234+619 | 10 39 00 | 72.3 | 48.7 | -1.9 | | -106.6 | -17 | 3777 | 16 28 40 |
| 16 30 10 | --- | 10 40 31 | 72.5 | 48.6 | -1.9 | | -107.1 | 73 | 3788 | 16 28 41 |
| 16 30 10 | EFJB-P3 | 10 40 31 | 72.1 | 48.1 | -1.9 | | -107.0 | -12 | 3788 | No stop |
| 16 37 40 | --- | 10 48 02 | 73.0 | 47.2 | -1.8 | | -109.5 | 438 | 3846 | 16 30 11 |
| 16 38 00 | J1234+619 | 10 48 22 | 73.4 | 47.6 | -1.8 | | -109.8 | 8 | 3846 | 16 38 00 |
| 16 39 30 | --- | 10 49 52 | 73.5 | 47.3 | -1.7 | | -110.3 | 90 | 3858 | 16 38 01 |
| 16 39 30 | EFJB-P3 | 10 49 52 | 73.2 | 46.9 | -1.8 | | -110.2 | -12 | 3858 | No stop |
| 16 47 00 | --- | 10 57 23 | 74.0 | 45.8 | -1.7 | | -112.9 | 438 | 3915 | 16 39 31 |
| 16 47 00 | J1234+619 | 10 57 23 | 74.4 | 46.2 | -1.6 | | -113.1 | -12 | 3915 | No stop |
| 16 48 30 | --- | 10 58 54 | 74.5 | 45.9 | -1.6 | | -113.7 | 78 | 3927 | 16 47 01 |
| 16 48 30 | EFJB-P3 | 10 58 54 | 74.2 | 45.5 | -1.6 | | -113.5 | -12 | 3927 | No stop |
| 16 56 00 | --- | 11 06 25 | 75.0 | 44.1 | -1.5 | | -116.5 | 438 | 3985 | 16 48 31 |
| 16 56 30 | J1241+602 | 11 06 55 | 75.2 | 51.6 | -1.6 | | -108.4 | 0 | 3985 | 16 56 30 |
| 16 58 00 | --- | 11 08 25 | 75.4 | 51.4 | -1.6 | | -108.9 | 90 | 3996 | 16 56 31 |
| 16 58 10 | J1234+619 | 11 08 35 | 75.6 | 44.0 | -1.4 | | -117.7 | -20 | 3996 | 16 58 10 |
| 16 59 40 | --- | 11 10 05 | 75.7 | 43.6 | -1.4 | | -118.4 | 70 | 4008 | 16 58 11 |
| 16 59 40 | EFJB-P4 | 11 10 05 | 75.3 | 43.4 | -1.5 | | -118.1 | -12 | 4008 | No stop |
| 17 07 10 | --- | 11 17 37 | 76.1 | 41.6 | -1.3 | | -121.4 | 438 | 4065 | 16 59 41 |
| 17 07 30 | J1234+619 | 11 17 57 | 76.5 | 41.7 | -1.3 | | -122.0 | 8 | 4065 | 17 07 30 |
| 17 09 00 | --- | 11 19 27 | 76.7 | 41.3 | -1.3 | | -122.7 | 90 | 4077 | 17 07 31 |
| 17 09 00 | EFJB-P4 | 11 19 27 | 76.3 | 41.1 | -1.3 | | -122.3 | -12 | 4077 | No stop |
| 17 16 30 | --- | 11 26 58 | 77.0 | 39.0 | -1.2 | | -126.0 | 438 | 4135 | 17 09 01 |
| 17 16 30 | J1234+619 | 11 26 58 | 77.4 | 39.1 | -1.1 | | -126.6 | -12 | 4135 | No stop |
| 17 18 00 | --- | 11 28 28 | 77.5 | 38.6 | -1.1 | | -127.4 | 78 | 4146 | 17 16 31 |

Schedule for TORUN (Code Tr ) Page 11

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 17 18 00 | EFJB-P4 | 11 28 28 | 77.1 | 38.5 | -1.2 | | -126.8 | -12 | 4146 | No stop |
| 17 25 30 | --- | 11 36 00 | 77.8 | 36.0 | -1.0 | | -131.0 | 438 | 4204 | 17 18 01 |
| 17 26 00 | J1241+602 | 11 36 30 | 78.5 | 44.8 | -1.1 | | -121.4 | -3 | 4204 | 17 26 00 |
| 17 27 30 | --- | 11 38 00 | 78.7 | 44.3 | -1.1 | | -122.2 | 87 | 4215 | 17 26 01 |
| 17 27 40 | J1234+619 | 11 38 10 | 78.4 | 35.0 | -0.9 | | -133.0 | -24 | 4215 | 17 27 40 |
| 17 29 10 | --- | 11 39 40 | 78.5 | 34.4 | -0.9 | | -133.9 | 66 | 4227 | 17 27 41 |
| 17 29 10 | HDF-N | 11 39 40 | 78.1 | 34.6 | -1.0 | | -133.1 | -12 | 4227 | No stop |
| 17 36 40 | --- | 11 47 11 | 78.8 | 31.5 | -0.8 | | -137.9 | 438 | 4285 | 17 29 11 |
| 17 37 00 | J1234+619 | 11 47 32 | 79.2 | 30.9 | -0.8 | | -139.0 | 8 | 4285 | 17 37 00 |
| 17 38 30 | --- | 11 49 02 | 79.3 | 30.2 | -0.8 | | -140.1 | 90 | 4296 | 17 37 01 |
| 17 38 30 | HDF-N | 11 49 02 | 78.9 | 30.6 | -0.8 | | -139.1 | -12 | 4296 | No stop |
| 17 46 00 | --- | 11 56 33 | 79.5 | 27.0 | -0.7 | | -144.4 | 438 | 4354 | 17 38 31 |
| 17 46 00 | J1234+619 | 11 56 33 | 79.8 | 26.3 | -0.6 | | -145.6 | -12 | 4354 | No stop |
| 17 47 30 | --- | 11 58 03 | 79.9 | 25.5 | -0.6 | | -146.7 | 78 | 4365 | 17 46 01 |
| 17 47 30 | HDF-N | 11 58 03 | 79.6 | 26.2 | -0.7 | | -145.5 | -12 | 4365 | No stop |
| 17 55 00 | --- | 12 05 34 | 80.0 | 22.0 | -0.5 | | -151.3 | 438 | 4423 | 17 47 31 |
| 17 57 00 | 3C345 | 12 07 35 | 42.6 | 77.1 | -4.6 | | -49.6 | -34 | 4423 | 17 57 00 |
| 18 03 00 | --- | 12 13 36 | 43.5 | 78.2 | -4.5 | | -49.9 | 326 | 4469 | 17 57 01 |
| 18 05 00 | J1241+602 | 12 15 36 | 82.0 | 24.2 | -0.4 | | -150.3 | -38 | 4469 | 18 05 00 |
| 18 06 00 | --- | 12 16 36 | 82.0 | 23.4 | -0.4 | | -151.2 | 22 | 4477 | 18 05 01 |
| 18 06 30 | J1241+602 | 12 17 06 | 82.1 | 23.0 | -0.4 | | -151.7 | 23 | 4477 | 18 06 30 |
| 18 08 00 | --- | 12 18 37 | 82.1 | 21.8 | -0.4 | | -153.3 | 90 | 4488 | 18 06 31 |
| 18 08 10 | J1234+619 | 12 18 47 | 80.9 | 12.1 | -0.3 | | -164.5 | -25 | 4488 | 18 08 10 |
| 18 09 40 | --- | 12 20 17 | 81.0 | 11.0 | -0.2 | | -165.9 | 65 | 4500 | 18 08 11 |
| 18 09 40 | EFJB-P1 | 12 20 17 | 80.7 | 12.5 | -0.3 | | -163.9 | -15 | 4500 | No stop |
| 18 17 10 | --- | 12 27 48 | 80.9 | 7.1 | -0.2 | | -170.8 | 435 | 4558 | 18 09 41 |
| 18 17 30 | J1234+619 | 12 28 08 | 81.2 | 5.1 | -0.1 | | -173.4 | 3 | 4558 | 18 17 30 |
| 18 19 00 | --- | 12 29 38 | 81.2 | 4.0 | -0.1 | | -174.9 | 90 | 4569 | 18 17 31 |
| 18 19 00 | EFJB-P1 | 12 29 38 | 80.9 | 5.8 | -0.1 | | -172.5 | -16 | 4569 | No stop |
| 18 26 30 | --- | 12 37 10 | 81.0 | 0.2 | -0.0 | | -179.7 | 434 | 4627 | 18 19 01 |

Schedule for TORUN (Code Tr ) Page 12

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 18 26 30 | J1234+619 | 12 37 10 | 81.2 | -1.8 | 0.0 | | 177.7 | -18 | 4627 | No stop |
| 18 28 00 | --- | 12 38 40 | 81.2 | -2.9 | 0.1 | | 176.3 | 72 | 4638 | 18 26 31 |
| 18 28 00 | EFJB-P1 | 12 38 40 | 81.0 | -0.9 | 0.0 | | 178.9 | -17 | 4638 | No stop |
| 18 35 30 | --- | 12 46 11 | 80.9 | -6.4 | 0.1 | | 171.7 | 433 | 4696 | 18 28 01 |
| 18 36 00 | J1241+602 | 12 46 41 | 82.8 | -4.5 | 0.1 | | 174.5 | 9 | 4696 | 18 36 00 |
| 18 37 30 | --- | 12 48 11 | 82.8 | -6.0 | 0.1 | | 172.8 | 90 | 4708 | 18 36 01 |
| 18 37 40 | J1234+619 | 12 48 21 | 81.0 | -10.2 | 0.2 | | 166.9 | -14 | 4708 | 18 37 40 |
| 18 39 10 | --- | 12 49 52 | 81.0 | -11.3 | 0.3 | | 165.5 | 76 | 4719 | 18 37 41 |
| 18 39 10 | EFJB-P2 | 12 49 52 | 80.8 | -9.1 | 0.2 | | 168.3 | -18 | 4719 | No stop |
| 18 46 40 | --- | 12 57 23 | 80.6 | -14.3 | 0.3 | | 161.5 | 432 | 4777 | 18 39 11 |
| 18 47 00 | J1234+619 | 12 57 43 | 80.7 | -16.8 | 0.4 | | 158.3 | 1 | 4777 | 18 47 00 |
| 18 48 30 | --- | 12 59 13 | 80.6 | -17.9 | 0.4 | | 157.0 | 90 | 4788 | 18 47 01 |
| 18 48 30 | EFJB-P2 | 12 59 13 | 80.5 | -15.6 | 0.4 | | 159.8 | -18 | 4788 | No stop |
| 18 56 00 | --- | 13 06 44 | 80.2 | -20.4 | 0.5 | | 153.4 | 432 | 4846 | 18 48 31 |
| 18 56 00 | J1234+619 | 13 06 44 | 80.2 | -22.6 | 0.5 | | 150.6 | -19 | 4846 | No stop |
| 18 57 30 | --- | 13 08 15 | 80.1 | -23.5 | 0.6 | | 149.4 | 71 | 4858 | 18 56 01 |
| 18 57 30 | EFJB-P2 | 13 08 15 | 80.1 | -21.3 | 0.5 | | 152.2 | -18 | 4858 | No stop |
| 19 05 00 | --- | 13 15 46 | 79.6 | -25.6 | 0.6 | | 146.3 | 432 | 4915 | 18 57 31 |
| 19 05 30 | J1241+602 | 13 16 16 | 81.4 | -29.6 | 0.6 | | 143.2 | 7 | 4915 | 19 05 30 |
| 19 07 00 | --- | 13 17 46 | 81.3 | -30.6 | 0.6 | | 141.9 | 90 | 4927 | 19 05 31 |
| 19 07 10 | J1234+619 | 13 17 56 | 79.5 | -28.9 | 0.7 | | 142.0 | -11 | 4927 | 19 07 10 |
| 19 08 40 | --- | 13 19 27 | 79.4 | -29.6 | 0.7 | | 140.9 | 79 | 4938 | 19 07 11 |
| 19 08 40 | EFJB-P3 | 13 19 27 | 79.4 | -27.5 | 0.7 | | 143.6 | -18 | 4938 | No stop |
| 19 16 10 | --- | 13 26 58 | 78.8 | -31.1 | 0.8 | | 138.4 | 432 | 4996 | 19 08 41 |
| 19 16 30 | J1234+619 | 13 27 18 | 78.8 | -33.3 | 0.9 | | 135.6 | 2 | 4996 | 19 16 30 |
| 19 18 00 | --- | 13 28 48 | 78.6 | -33.9 | 0.9 | | 134.7 | 90 | 5008 | 19 16 31 |
| 19 18 00 | EFJB-P3 | 13 28 48 | 78.7 | -31.9 | 0.9 | | 137.2 | -17 | 5008 | No stop |
| 19 25 30 | --- | 13 36 19 | 78.1 | -35.0 | 1.0 | | 132.5 | 433 | 5065 | 19 18 01 |
| 19 25 30 | J1234+619 | 13 36 19 | 78.0 | -36.9 | 1.0 | | 130.1 | -17 | 5065 | No stop |
| 19 27 00 | --- | 13 37 50 | 77.9 | -37.4 | 1.0 | | 129.3 | 73 | 5077 | 19 25 31 |

Schedule for TORUN (Code Tr ) Page 13

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 19 27 00 | EFJB-P3 | 13 37 50 | 77.9 | -35.6 | 1.0 | | 131.6 | -17 | 5077 | No stop |
| 19 34 30 | --- | 13 45 21 | 77.3 | -38.2 | 1.1 | | 127.4 | 433 | 5135 | 19 27 01 |
| 19 35 00 | J1241+602 | 13 45 51 | 78.7 | -44.2 | 1.1 | | 122.5 | 3 | 5135 | 19 35 00 |
| 19 36 30 | --- | 13 47 21 | 78.6 | -44.7 | 1.1 | | 121.7 | 90 | 5146 | 19 35 01 |
| 19 36 40 | J1234+619 | 13 47 31 | 76.9 | -40.5 | 1.2 | | 124.1 | -13 | 5146 | 19 36 40 |
| 19 38 10 | --- | 13 49 01 | 76.8 | -40.9 | 1.2 | | 123.3 | 77 | 5158 | 19 36 41 |
| 19 38 10 | EFJB-P4 | 13 49 01 | 76.9 | -39.3 | 1.2 | | 125.5 | -16 | 5158 | No stop |
| 19 45 40 | --- | 13 56 33 | 76.2 | -41.4 | 1.3 | | 121.8 | 434 | 5215 | 19 38 11 |
| 19 46 00 | J1234+619 | 13 56 53 | 76.0 | -43.0 | 1.4 | | 119.6 | 4 | 5215 | 19 46 00 |
| 19 47 30 | --- | 13 58 23 | 75.8 | -43.4 | 1.4 | | 118.9 | 90 | 5227 | 19 46 01 |
| 19 47 30 | EFJB-P4 | 13 58 23 | 76.0 | -41.9 | 1.3 | | 120.9 | -16 | 5227 | No stop |
| 19 55 00 | --- | 14 05 54 | 75.2 | -43.6 | 1.5 | | 117.6 | 434 | 5285 | 19 47 31 |
| 19 55 00 | J1234+619 | 14 05 54 | 75.1 | -45.0 | 1.5 | | 115.7 | -16 | 5285 | No stop |
| 19 56 30 | --- | 14 07 24 | 74.9 | -45.3 | 1.5 | | 115.1 | 74 | 5296 | 19 55 01 |
| 19 56 30 | EFJB-P4 | 14 07 24 | 75.1 | -43.9 | 1.5 | | 117.0 | -15 | 5296 | No stop |
| 20 04 00 | --- | 14 14 56 | 74.3 | -45.3 | 1.6 | | 113.9 | 435 | 5354 | 19 56 31 |
| 20 04 30 | J1241+602 | 14 15 26 | 75.4 | -51.3 | 1.6 | | 109.1 | 3 | 5354 | 20 04 30 |
| 20 06 00 | --- | 14 16 56 | 75.3 | -51.5 | 1.6 | | 108.5 | 90 | 5365 | 20 04 31 |
| 20 06 10 | J1234+619 | 14 17 06 | 73.8 | -46.9 | 1.7 | | 111.3 | -14 | 5365 | 20 06 10 |
| 20 07 40 | --- | 14 18 36 | 73.7 | -47.2 | 1.7 | | 110.8 | 76 | 5377 | 20 06 11 |
| 20 07 40 | EFJB-P3 | 14 18 36 | 73.9 | -46.0 | 1.7 | | 112.5 | -15 | 5377 | No stop |
| 20 15 10 | --- | 14 26 08 | 73.1 | -47.1 | 1.8 | | 109.8 | 435 | 5435 | 20 07 41 |
| 20 15 30 | J1234+619 | 14 26 28 | 72.8 | -48.2 | 1.9 | | 108.0 | 5 | 5435 | 20 15 30 |
| 20 17 00 | --- | 14 27 58 | 72.6 | -48.4 | 1.9 | | 107.5 | 90 | 5446 | 20 15 31 |
| 20 17 00 | EFJB-P3 | 14 27 58 | 72.9 | -47.3 | 1.8 | | 109.2 | -14 | 5446 | No stop |
| 20 24 30 | --- | 14 35 29 | 72.0 | -48.2 | 2.0 | | 106.6 | 436 | 5504 | 20 17 01 |
| 20 24 30 | J1234+619 | 14 35 29 | 71.8 | -49.2 | 2.0 | | 105.1 | -14 | 5504 | No stop |
| 20 26 00 | --- | 14 36 59 | 71.6 | -49.4 | 2.0 | | 104.6 | 76 | 5515 | 20 24 31 |
| 20 26 00 | EFJB-P3 | 14 36 59 | 71.9 | -48.4 | 2.0 | | 106.2 | -14 | 5515 | No stop |
| 20 33 30 | --- | 14 44 31 | 71.0 | -49.1 | 2.1 | | 103.8 | 436 | 5573 | 20 26 01 |

Schedule for TORUN (Code Tr ) Page 14

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 20 34 00 | J1241+602 | 14 45 01 | 71.9 | -54.5 | 2.0 | | 99.6 | 4 | 5573 | 20 34 00 |
| 20 35 30 | --- | 14 46 31 | 71.7 | -54.6 | 2.1 | | 99.2 | 90 | 5585 | 20 34 01 |
| 20 35 40 | J1234+619 | 14 46 41 | 70.5 | -50.2 | 2.2 | | 101.7 | -14 | 5585 | 20 35 40 |
| 20 37 10 | --- | 14 48 11 | 70.3 | -50.3 | 2.2 | | 101.3 | 76 | 5596 | 20 35 41 |
| 20 37 10 | EFJB-P4 | 14 48 11 | 70.6 | -49.4 | 2.2 | | 102.7 | -13 | 5596 | No stop |
| 20 44 40 | --- | 14 55 42 | 69.7 | -49.9 | 2.3 | | 100.6 | 437 | 5654 | 20 37 11 |
| 20 45 00 | J1234+619 | 14 56 02 | 69.4 | -50.8 | 2.4 | | 99.1 | 7 | 5654 | 20 45 00 |
| 20 46 30 | --- | 14 57 33 | 69.3 | -50.8 | 2.4 | | 98.7 | 90 | 5665 | 20 45 01 |
| 20 46 30 | EFJB-P4 | 14 57 33 | 69.5 | -50.0 | 2.3 | | 100.1 | -13 | 5665 | No stop |
| 20 54 00 | --- | 15 05 04 | 68.6 | -50.4 | 2.5 | | 98.0 | 437 | 5723 | 20 46 31 |
| 20 54 00 | J1234+619 | 15 05 04 | 68.4 | -51.2 | 2.5 | | 96.7 | -13 | 5723 | No stop |
| 20 55 30 | --- | 15 06 34 | 68.2 | -51.2 | 2.5 | | 96.4 | 77 | 5735 | 20 54 01 |
| 20 55 30 | EFJB-P4 | 15 06 34 | 68.5 | -50.5 | 2.5 | | 97.6 | -13 | 5735 | No stop |
| 21 03 00 | --- | 15 14 05 | 67.6 | -50.7 | 2.6 | | 95.7 | 437 | 5792 | 20 55 31 |
| 21 03 30 | J1241+602 | 15 14 35 | 68.2 | -55.6 | 2.5 | | 92.1 | 5 | 5792 | 21 03 30 |
| 21 05 00 | --- | 15 16 06 | 68.0 | -55.6 | 2.6 | | 91.8 | 90 | 5804 | 21 03 31 |
| 21 05 10 | J1234+619 | 15 16 16 | 67.1 | -51.5 | 2.7 | | 94.0 | -13 | 5804 | 21 05 10 |
| 21 06 40 | --- | 15 17 46 | 66.9 | -51.5 | 2.7 | | 93.6 | 77 | 5815 | 21 05 11 |
| 21 06 40 | EFJB-P1 | 15 17 46 | 67.2 | -50.8 | 2.7 | | 94.8 | -12 | 5815 | No stop |
| 21 14 10 | --- | 15 25 17 | 66.3 | -51.0 | 2.8 | | 93.0 | 438 | 5873 | 21 06 41 |
| 21 14 30 | J1234+619 | 15 25 37 | 66.0 | -51.6 | 2.8 | | 91.8 | 8 | 5873 | 21 14 30 |
| 21 16 00 | --- | 15 27 07 | 65.8 | -51.6 | 2.9 | | 91.4 | 90 | 5885 | 21 14 31 |
| 21 16 00 | EFJB-P1 | 15 27 07 | 66.1 | -51.0 | 2.8 | | 92.6 | -12 | 5885 | No stop |
| 21 23 30 | --- | 15 34 39 | 65.2 | -51.1 | 3.0 | | 90.9 | 438 | 5942 | 21 16 01 |
| 21 23 30 | J1234+619 | 15 34 39 | 64.9 | -51.7 | 3.0 | | 89.8 | -12 | 5942 | No stop |
| 21 25 00 | --- | 15 36 09 | 64.7 | -51.7 | 3.0 | | 89.4 | 78 | 5954 | 21 23 31 |
| 21 25 00 | EFJB-P1 | 15 36 09 | 65.0 | -51.1 | 3.0 | | 90.5 | -12 | 5954 | No stop |
| 21 32 30 | --- | 15 43 40 | 64.2 | -51.1 | 3.1 | | 88.9 | 438 | 6012 | 21 25 01 |
| 21 33 00 | J1241+602 | 15 44 10 | 64.6 | -55.5 | 3.0 | | 85.8 | 6 | 6012 | 21 33 00 |
| 21 34 30 | --- | 15 45 41 | 64.4 | -55.4 | 3.1 | | 85.5 | 90 | 6023 | 21 33 01 |

Schedule for TORUN (Code Tr ) Page 15

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 21 34 40 | J1234+619 | 15 45 51 | 63.6 | -51.6 | 3.2 | | 87.4 | -13 | 6023 | 21 34 40 |
| 21 36 10 | --- | 15 47 21 | 63.4 | -51.6 | 3.2 | | 87.0 | 77 | 6035 | 21 34 41 |
| 21 36 10 | EFJB-P2 | 15 47 21 | 63.7 | -51.1 | 3.2 | | 88.1 | -11 | 6035 | No stop |
| 21 43 40 | --- | 15 54 52 | 62.8 | -51.0 | 3.3 | | 86.5 | 439 | 6092 | 21 36 11 |
| 21 44 00 | J1234+619 | 15 55 12 | 62.5 | -51.4 | 3.3 | | 85.4 | 8 | 6092 | 21 44 00 |
| 21 45 30 | --- | 15 56 42 | 62.3 | -51.4 | 3.4 | | 85.1 | 90 | 6104 | 21 44 01 |
| 21 45 30 | EFJB-P2 | 15 56 42 | 62.6 | -50.9 | 3.3 | | 86.1 | -11 | 6104 | No stop |
| 21 53 00 | --- | 16 04 14 | 61.8 | -50.8 | 3.4 | | 84.6 | 439 | 6162 | 21 45 31 |
| 21 53 00 | J1234+619 | 16 04 14 | 61.4 | -51.2 | 3.5 | | 83.6 | -12 | 6162 | No stop |
| 21 54 30 | --- | 16 05 44 | 61.2 | -51.2 | 3.5 | | 83.3 | 78 | 6173 | 21 53 01 |
| 21 54 30 | EFJB-P2 | 16 05 44 | 61.6 | -50.7 | 3.5 | | 84.3 | -12 | 6173 | No stop |
| 22 02 00 | --- | 16 13 15 | 60.7 | -50.5 | 3.6 | | 82.8 | 438 | 6231 | 21 54 31 |
| 22 02 30 | J1241+602 | 16 13 45 | 60.9 | -54.5 | 3.5 | | 80.3 | 7 | 6231 | 22 02 30 |
| 22 04 00 | --- | 16 15 15 | 60.7 | -54.4 | 3.6 | | 80.0 | 90 | 6242 | 22 02 31 |
| 22 04 10 | J1234+619 | 16 15 25 | 60.1 | -50.9 | 3.7 | | 81.5 | -12 | 6242 | 22 04 10 |
| 22 05 40 | --- | 16 16 56 | 59.9 | -50.8 | 3.7 | | 81.2 | 78 | 6254 | 22 04 11 |
| 22 05 40 | EFJB-P3 | 16 16 56 | 60.3 | -50.4 | 3.7 | | 82.1 | -12 | 6254 | No stop |
| 22 13 10 | --- | 16 24 27 | 59.4 | -50.2 | 3.8 | | 80.7 | 438 | 6312 | 22 05 41 |
| 22 13 30 | J1234+619 | 16 24 47 | 59.0 | -50.5 | 3.8 | | 79.7 | 8 | 6312 | 22 13 30 |
| 22 15 00 | --- | 16 26 17 | 58.9 | -50.5 | 3.9 | | 79.4 | 90 | 6323 | 22 13 31 |
| 22 15 00 | EFJB-P3 | 16 26 17 | 59.2 | -50.1 | 3.8 | | 80.3 | -12 | 6323 | No stop |
| 22 22 30 | --- | 16 33 48 | 58.3 | -49.8 | 3.9 | | 78.9 | 438 | 6381 | 22 15 01 |
| 22 22 30 | J1234+619 | 16 33 48 | 58.0 | -50.1 | 4.0 | | 78.1 | -12 | 6381 | No stop |
| 22 24 00 | --- | 16 35 19 | 57.8 | -50.1 | 4.0 | | 77.8 | 78 | 6392 | 22 22 31 |
| 22 24 00 | EFJB-P3 | 16 35 19 | 58.2 | -49.7 | 4.0 | | 78.6 | -12 | 6392 | No stop |
| 22 31 30 | --- | 16 42 50 | 57.3 | -49.4 | 4.1 | | 77.3 | 438 | 6450 | 22 24 01 |
| 22 32 00 | J1241+602 | 16 43 20 | 57.3 | -53.0 | 4.0 | | 75.2 | 8 | 6450 | 22 32 00 |
| 22 33 30 | --- | 16 44 50 | 57.2 | -52.9 | 4.0 | | 74.9 | 90 | 6462 | 22 32 01 |
| 22 33 40 | J1234+619 | 16 45 00 | 56.7 | -49.6 | 4.2 | | 76.0 | -11 | 6462 | 22 33 40 |
| 22 35 10 | --- | 16 46 30 | 56.5 | -49.5 | 4.2 | | 75.8 | 79 | 6473 | 22 33 41 |

Schedule for TORUN (Code Tr ) Page 16

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 22 35 10 | EFJB-P4 | 16 46 30 | 56.9 | -49.2 | 4.2 | | 76.6 | -12 | 6473 | No stop |
| 22 42 40 | --- | 16 54 02 | 56.0 | -48.8 | 4.3 | | 75.3 | 438 | 6531 | 22 35 11 |
| 22 43 00 | J1234+619 | 16 54 22 | 55.6 | -49.1 | 4.3 | | 74.4 | 8 | 6531 | 22 43 00 |
| 22 44 30 | --- | 16 55 52 | 55.5 | -49.0 | 4.4 | | 74.1 | 90 | 6542 | 22 43 01 |
| 22 44 30 | EFJB-P4 | 16 55 52 | 55.8 | -48.7 | 4.3 | | 74.9 | -12 | 6542 | No stop |
| 22 52 00 | --- | 17 03 23 | 55.0 | -48.3 | 4.4 | | 73.6 | 438 | 6600 | 22 44 31 |
| 22 52 00 | J1234+619 | 17 03 23 | 54.6 | -48.5 | 4.5 | | 72.8 | -12 | 6600 | No stop |
| 22 53 30 | --- | 17 04 54 | 54.4 | -48.5 | 4.5 | | 72.6 | 78 | 6612 | 22 52 01 |
| 22 53 30 | EFJB-P4 | 17 04 54 | 54.8 | -48.2 | 4.5 | | 73.4 | -12 | 6612 | No stop |
| 23 01 00 | --- | 17 12 25 | 54.0 | -47.8 | 4.6 | | 72.1 | 438 | 6669 | 22 53 31 |
| 23 01 30 | J1241+602 | 17 12 55 | 53.8 | -51.0 | 4.5 | | 70.3 | 9 | 6669 | 23 01 30 |
| 23 03 00 | --- | 17 14 25 | 53.7 | -50.9 | 4.5 | | 70.1 | 90 | 6681 | 23 01 31 |
| 23 03 10 | J1234+619 | 17 14 35 | 53.4 | -47.8 | 4.7 | | 70.9 | -11 | 6681 | 23 03 10 |
| 23 04 40 | --- | 17 16 05 | 53.2 | -47.8 | 4.7 | | 70.7 | 79 | 6692 | 23 03 11 |
| 23 04 40 | EFJB-P1 | 17 16 05 | 53.6 | -47.5 | 4.6 | | 71.4 | -12 | 6692 | No stop |
| 23 12 10 | --- | 17 23 37 | 52.7 | -47.1 | 4.8 | | 70.2 | 438 | 6750 | 23 04 41 |
| 23 12 30 | J1234+619 | 17 23 57 | 52.3 | -47.2 | 4.8 | | 69.4 | 8 | 6750 | 23 12 30 |
| 23 14 00 | --- | 17 25 27 | 52.2 | -47.1 | 4.8 | | 69.1 | 90 | 6762 | 23 12 31 |
| 23 14 00 | EFJB-P1 | 17 25 27 | 52.5 | -46.9 | 4.8 | | 69.9 | -12 | 6762 | No stop |
| 23 21 30 | --- | 17 32 58 | 51.7 | -46.4 | 4.9 | | 68.6 | 438 | 6819 | 23 14 01 |
| 23 21 30 | J1234+619 | 17 32 58 | 51.3 | -46.6 | 5.0 | | 67.9 | -12 | 6819 | No stop |
| 23 23 00 | --- | 17 34 28 | 51.2 | -46.5 | 5.0 | | 67.6 | 78 | 6831 | 23 21 31 |
| 23 23 00 | EFJB-P1 | 17 34 28 | 51.5 | -46.3 | 4.9 | | 68.3 | -12 | 6831 | No stop |
| 23 30 30 | --- | 17 42 00 | 50.7 | -45.8 | 5.1 | | 67.1 | 438 | 6888 | 23 23 01 |
| 23 31 00 | J1241+602 | 17 42 30 | 50.4 | -48.8 | 5.0 | | 65.7 | 9 | 6888 | 23 31 00 |
| 23 32 30 | --- | 17 44 00 | 50.3 | -48.7 | 5.0 | | 65.4 | 90 | 6900 | 23 31 01 |
| 23 32 40 | J1234+619 | 17 44 10 | 50.1 | -45.8 | 5.2 | | 66.0 | -10 | 6900 | 23 32 40 |
| 23 34 10 | --- | 17 45 40 | 50.0 | -45.7 | 5.2 | | 65.8 | 80 | 6912 | 23 32 41 |
| 23 34 10 | EFJB-P2 | 17 45 40 | 50.3 | -45.5 | 5.1 | | 66.5 | -12 | 6912 | No stop |
| 23 41 40 | --- | 17 53 11 | 49.5 | -45.0 | 5.3 | | 65.2 | 438 | 6969 | 23 34 11 |

Schedule for TORUN (Code Tr ) Page 17

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 5 Jun 2014 Day 156 --- | | | | | | | | | | |
| 23 42 00 | J1234+619 | 17 53 31 | 49.1 | -45.1 | 5.3 | | 64.5 | 8 | 6969 | 23 42 00 |
| 23 43 30 | --- | 17 55 02 | 49.0 | -45.0 | 5.3 | | 64.3 | 90 | 6981 | 23 42 01 |
| 23 43 30 | EFJB-P2 | 17 55 02 | 49.3 | -44.8 | 5.3 | | 64.9 | -12 | 6981 | No stop |
| 23 51 00 | --- | 18 02 33 | 48.6 | -44.2 | 5.4 | | 63.7 | 438 | 7038 | 23 43 31 |
| 23 51 00 | J1234+619 | 18 02 33 | 48.2 | -44.4 | 5.5 | | 63.1 | -12 | 7038 | No stop |
| 23 52 30 | --- | 18 04 03 | 48.0 | -44.2 | 5.5 | | 62.8 | 78 | 7050 | 23 51 01 |
| 23 52 30 | EFJB-P2 | 18 04 03 | 48.4 | -44.1 | 5.4 | | 63.5 | -12 | 7050 | No stop |
| 23 59 59 | --- | 18 11 34 | 47.6 | -43.5 | 5.6 | | 62.3 | 437 | 7108 | 23 52 31 |
| --- Fri 6 Jun 2014 Day 157 --- | | | | | | | | | | |
| 00 00 30 | J1241+602 | 18 12 05 | 47.2 | -46.3 | 5.5 | | 61.1 | 10 | 7108 | 00 00 30 |
| 00 02 00 | --- | 18 13 35 | 47.0 | -46.2 | 5.5 | | 60.9 | 90 | 7119 | 00 00 31 |
| 00 02 10 | J1234+619 | 18 13 45 | 47.0 | -43.5 | 5.6 | | 61.3 | -10 | 7119 | 00 02 10 |
| 00 03 40 | --- | 18 15 15 | 46.8 | -43.3 | 5.7 | | 61.0 | 80 | 7131 | 00 02 11 |
| 00 03 40 | EFJB-P3 | 18 15 15 | 47.2 | -43.2 | 5.6 | | 61.7 | -12 | 7131 | No stop |
| 00 11 10 | --- | 18 22 46 | 46.5 | -42.6 | 5.8 | | 60.5 | 438 | 7188 | 00 03 41 |
| 00 11 30 | J1234+619 | 18 23 06 | 46.0 | -42.7 | 5.8 | | 59.8 | 8 | 7188 | 00 11 30 |
| 00 13 00 | --- | 18 24 37 | 45.9 | -42.5 | 5.8 | | 59.5 | 90 | 7200 | 00 11 31 |
| 00 13 00 | EFJB-P3 | 18 24 37 | 46.3 | -42.5 | 5.8 | | 60.2 | -12 | 7200 | No stop |
| 00 20 30 | --- | 18 32 08 | 45.5 | -41.8 | 5.9 | | 59.0 | 438 | 7258 | 00 13 01 |
| 00 20 30 | J1234+619 | 18 32 08 | 45.1 | -41.9 | 6.0 | | 58.3 | -12 | 7258 | No stop |
| 00 22 00 | --- | 18 33 38 | 45.0 | -41.8 | 6.0 | | 58.1 | 78 | 7269 | 00 20 31 |
| 00 22 00 | EFJB-P3 | 18 33 38 | 45.4 | -41.7 | 5.9 | | 58.7 | -12 | 7269 | No stop |
| 00 29 30 | --- | 18 41 09 | 44.6 | -41.0 | 6.1 | | 57.5 | 438 | 7327 | 00 22 01 |
| 00 30 00 | J1241+602 | 18 41 39 | 44.0 | -43.6 | 6.0 | | 56.6 | 11 | 7327 | 00 30 00 |
| 00 31 30 | --- | 18 43 10 | 43.9 | -43.5 | 6.0 | | 56.4 | 90 | 7338 | 00 30 01 |
| 00 31 40 | J1234+619 | 18 43 20 | 44.0 | -40.9 | 6.1 | | 56.6 | -9 | 7338 | 00 31 40 |
| 00 33 10 | --- | 18 44 50 | 43.9 | -40.8 | 6.2 | | 56.3 | 81 | 7350 | 00 31 41 |
| 00 33 10 | EFJB-P4 | 18 44 50 | 44.3 | -40.7 | 6.1 | | 56.9 | -12 | 7350 | No stop |
| 00 40 40 | --- | 18 52 21 | 43.5 | -40.0 | 6.2 | | 55.7 | 438 | 7408 | 00 33 11 |

Schedule for TORUN (Code Tr ) Page 18

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 6 Jun 2014 Day 157 --- | | | | | | | | | | |
| 00 41 00 | J1234+619 | 18 52 41 | 43.1 | -40.0 | 6.3 | | 55.1 | 8 | 7408 | 00 41 00 |
| 00 42 30 | --- | 18 54 11 | 43.0 | -39.9 | 6.3 | | 54.9 | 90 | 7419 | 00 41 01 |
| 00 42 30 | EFJB-P4 | 18 54 11 | 43.4 | -39.9 | 6.3 | | 55.5 | -12 | 7419 | No stop |
| 00 50 00 | --- | 19 01 43 | 42.6 | -39.2 | 6.4 | | 54.3 | 438 | 7477 | 00 42 31 |
| 00 50 00 | J1234+619 | 19 01 43 | 42.2 | -39.2 | 6.4 | | 53.7 | -12 | 7477 | No stop |
| 00 51 30 | --- | 19 03 13 | 42.1 | -39.0 | 6.5 | | 53.4 | 78 | 7488 | 00 50 01 |
| 00 51 30 | EFJB-P4 | 19 03 13 | 42.5 | -39.0 | 6.4 | | 54.0 | -12 | 7488 | No stop |
| 00 59 00 | --- | 19 10 44 | 41.8 | -38.3 | 6.6 | | 52.8 | 438 | 7546 | 00 51 31 |
| 00 59 30 | J1241+602 | 19 11 14 | 41.0 | -40.7 | 6.5 | | 52.2 | 11 | 7546 | 00 59 30 |
| 01 01 00 | --- | 19 12 44 | 40.9 | -40.6 | 6.5 | | 51.9 | 90 | 7558 | 00 59 31 |
| 01 01 10 | J1234+619 | 19 12 54 | 41.2 | -38.1 | 6.6 | | 51.9 | -9 | 7558 | 01 01 10 |
| 01 02 40 | --- | 19 14 25 | 41.1 | -38.0 | 6.7 | | 51.7 | 81 | 7569 | 01 01 11 |
| 01 02 40 | EFJB-P1 | 19 14 25 | 41.4 | -38.0 | 6.6 | | 52.3 | -12 | 7569 | No stop |
| 01 10 10 | --- | 19 21 56 | 40.8 | -37.3 | 6.7 | | 51.1 | 438 | 7627 | 01 02 41 |
| 01 10 30 | J1234+619 | 19 22 16 | 40.3 | -37.2 | 6.8 | | 50.4 | 8 | 7627 | 01 10 30 |
| 01 12 00 | --- | 19 23 46 | 40.2 | -37.1 | 6.8 | | 50.2 | 90 | 7638 | 01 10 31 |
| 01 12 00 | EFJB-P1 | 19 23 46 | 40.6 | -37.1 | 6.8 | | 50.8 | -12 | 7638 | No stop |
| 01 19 30 | --- | 19 31 17 | 39.9 | -36.3 | 6.9 | | 49.6 | 438 | 7696 | 01 12 01 |
| 01 19 30 | J1234+619 | 19 31 17 | 39.5 | -36.3 | 6.9 | | 49.0 | -12 | 7696 | No stop |
| 01 21 00 | --- | 19 32 48 | 39.4 | -36.2 | 7.0 | | 48.8 | 78 | 7708 | 01 19 31 |
| 01 21 00 | EFJB-P1 | 19 32 48 | 39.8 | -36.2 | 6.9 | | 49.4 | -12 | 7708 | No stop |
| 01 28 30 | --- | 19 40 19 | 39.1 | -35.4 | 7.0 | | 48.2 | 438 | 7765 | 01 21 01 |
| 01 29 00 | J1241+602 | 19 40 49 | 38.2 | -37.6 | 7.0 | | 47.7 | 12 | 7765 | 01 29 00 |
| 01 30 30 | --- | 19 42 19 | 38.1 | -37.5 | 7.0 | | 47.5 | 90 | 7777 | 01 29 01 |
| 01 30 40 | J1234+619 | 19 42 29 | 38.5 | -35.2 | 7.1 | | 47.3 | -9 | 7777 | 01 30 40 |
| 01 32 10 | --- | 19 44 00 | 38.4 | -35.0 | 7.2 | | 47.0 | 81 | 7788 | 01 30 41 |
| 01 32 10 | EFJB-P2 | 19 44 00 | 38.8 | -35.1 | 7.1 | | 47.6 | -12 | 7788 | No stop |
| 01 39 40 | --- | 19 51 31 | 38.2 | -34.3 | 7.2 | | 46.4 | 438 | 7846 | 01 32 11 |
| 01 40 00 | J1234+619 | 19 51 51 | 37.7 | -34.2 | 7.3 | | 45.8 | 8 | 7846 | 01 40 00 |
| 01 41 30 | --- | 19 53 21 | 37.6 | -34.1 | 7.3 | | 45.6 | 90 | 7858 | 01 40 01 |

Schedule for TORUN (Code Tr ) Page 19

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 6 Jun 2014 Day 157 --- | | | | | | | | | | |
| 01 41 30 | EFJB-P2 | 19 53 21 | 38.0 | -34.1 | 7.3 | | 46.1 | -12 | 7858 | No stop |
| 01 49 00 | --- | 20 00 52 | 37.4 | -33.3 | 7.4 | | 44.9 | 438 | 7915 | 01 41 31 |
| 01 49 00 | J1234+619 | 20 00 52 | 37.0 | -33.3 | 7.4 | | 44.4 | -12 | 7915 | No stop |
| 01 50 30 | --- | 20 02 23 | 36.9 | -33.1 | 7.5 | | 44.1 | 78 | 7927 | 01 49 01 |
| 01 50 30 | EFJB-P2 | 20 02 23 | 37.3 | -33.2 | 7.4 | | 44.7 | -12 | 7927 | No stop |
| 01 58 00 | --- | 20 09 54 | 36.6 | -32.4 | 7.5 | | 43.5 | 438 | 7985 | 01 50 31 |
| 01 58 30 | J1241+602 | 20 10 24 | 35.6 | -34.4 | 7.5 | | 43.2 | 12 | 7985 | 01 58 30 |
| 02 00 00 | --- | 20 11 54 | 35.5 | -34.3 | 7.5 | | 43.0 | 90 | 7996 | 01 58 31 |
| 02 00 10 | J1234+619 | 20 12 04 | 36.1 | -32.1 | 7.6 | | 42.6 | -8 | 7996 | 02 00 10 |
| 02 01 40 | --- | 20 13 34 | 36.0 | -31.9 | 7.6 | | 42.4 | 82 | 8008 | 02 00 11 |
| 02 01 40 | EFJB-P3 | 20 13 34 | 36.4 | -32.0 | 7.6 | | 42.9 | -12 | 8008 | No stop |
| 02 09 10 | --- | 20 21 06 | 35.8 | -31.2 | 7.7 | | 41.7 | 438 | 8065 | 02 01 41 |
| 02 09 30 | J1234+619 | 20 21 26 | 35.3 | -31.1 | 7.8 | | 41.1 | 8 | 8065 | 02 09 30 |
| 02 11 00 | --- | 20 22 56 | 35.2 | -30.9 | 7.8 | | 40.9 | 90 | 8077 | 02 09 31 |
| 02 11 00 | EFJB-P3 | 20 22 56 | 35.6 | -31.0 | 7.8 | | 41.4 | -12 | 8077 | No stop |
| 02 18 30 | --- | 20 30 27 | 35.0 | -30.2 | 7.9 | | 40.2 | 438 | 8135 | 02 11 01 |
| 02 18 30 | J1234+619 | 20 30 27 | 34.7 | -30.1 | 7.9 | | 39.7 | -12 | 8135 | No stop |
| 02 20 00 | --- | 20 31 57 | 34.5 | -29.9 | 8.0 | | 39.5 | 78 | 8146 | 02 18 31 |
| 02 20 00 | EFJB-P3 | 20 31 57 | 34.9 | -30.0 | 7.9 | | 40.0 | -12 | 8146 | No stop |
| 02 27 30 | --- | 20 39 29 | 34.4 | -29.2 | 8.0 | | 38.8 | 438 | 8204 | 02 20 01 |
| 02 28 00 | J1241+602 | 20 39 59 | 33.2 | -31.1 | 8.0 | | 38.7 | 13 | 8204 | 02 28 00 |
| 02 29 30 | --- | 20 41 29 | 33.1 | -30.9 | 8.0 | | 38.5 | 90 | 8215 | 02 28 01 |
| 02 29 40 | J1234+619 | 20 41 39 | 33.8 | -28.8 | 8.1 | | 38.0 | -8 | 8215 | 02 29 40 |
| 02 31 10 | --- | 20 43 09 | 33.7 | -28.7 | 8.1 | | 37.7 | 82 | 8227 | 02 29 41 |
| 02 31 10 | EFJB-P4 | 20 43 09 | 34.1 | -28.8 | 8.1 | | 38.2 | -12 | 8227 | No stop |
| 02 38 40 | --- | 20 50 41 | 33.6 | -28.0 | 8.2 | | 37.0 | 438 | 8285 | 02 31 11 |
| 02 39 00 | J1234+619 | 20 51 01 | 33.2 | -27.8 | 8.3 | | 36.5 | 8 | 8285 | 02 39 00 |
| 02 40 30 | --- | 20 52 31 | 33.1 | -27.6 | 8.3 | | 36.2 | 90 | 8296 | 02 39 01 |
| 02 40 30 | EFJB-P4 | 20 52 31 | 33.4 | -27.7 | 8.3 | | 36.7 | -12 | 8296 | No stop |
| 02 48 00 | --- | 21 00 02 | 32.9 | -26.9 | 8.4 | | 35.5 | 438 | 8354 | 02 40 31 |

Schedule for TORUN (Code Tr ) Page 20

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 6 Jun 2014 Day 157 --- | | | | | | | | | | |
| 02 48 00 | J1234+619 | 21 00 02 | 32.5 | -26.8 | 8.4 | | 35.0 | -12 | 8354 | No stop |
| 02 49 30 | --- | 21 01 32 | 32.4 | -26.6 | 8.4 | | 34.8 | 78 | 8365 | 02 48 01 |
| 02 49 30 | EFJB-P4 | 21 01 32 | 32.8 | -26.7 | 8.4 | | 35.3 | -12 | 8365 | No stop |
| 02 57 00 | --- | 21 09 04 | 32.3 | -25.9 | 8.5 | | 34.1 | 438 | 8423 | 02 49 31 |
| 02 57 30 | J1241+602 | 21 09 34 | 31.0 | -27.6 | 8.5 | | 34.1 | 12 | 8423 | 02 57 30 |
| 02 59 00 | --- | 21 11 04 | 30.9 | -27.4 | 8.5 | | 33.9 | 90 | 8435 | 02 57 31 |
| 02 59 10 | J1234+619 | 21 11 14 | 31.8 | -25.5 | 8.6 | | 33.3 | -7 | 8435 | 02 59 10 |
| 03 00 40 | --- | 21 12 44 | 31.7 | -25.3 | 8.6 | | 33.0 | 83 | 8446 | 02 59 11 |
| 03 00 40 | EFJB-P1 | 21 12 44 | 32.1 | -25.5 | 8.6 | | 33.5 | -12 | 8446 | No stop |
| 03 08 10 | --- | 21 20 15 | 31.6 | -24.6 | 8.7 | | 32.3 | 438 | 8504 | 03 00 41 |
| 03 08 30 | J1234+619 | 21 20 35 | 31.2 | -24.4 | 8.8 | | 31.8 | 8 | 8504 | 03 08 30 |
| 03 10 00 | --- | 21 22 06 | 31.1 | -24.2 | 8.8 | | 31.5 | 90 | 8515 | 03 08 31 |
| 03 10 00 | EFJB-P1 | 21 22 06 | 31.5 | -24.4 | 8.7 | | 32.0 | -12 | 8515 | No stop |
| 03 17 30 | --- | 21 29 37 | 31.0 | -23.5 | 8.9 | | 30.8 | 438 | 8573 | 03 10 01 |
| 03 17 30 | J1234+619 | 21 29 37 | 30.7 | -23.3 | 8.9 | | 30.3 | -12 | 8573 | No stop |
| 03 19 00 | --- | 21 31 07 | 30.6 | -23.1 | 8.9 | | 30.1 | 78 | 8585 | 03 17 31 |
| 03 19 00 | EFJB-P1 | 21 31 07 | 30.9 | -23.3 | 8.9 | | 30.6 | -12 | 8585 | No stop |
| 03 26 30 | --- | 21 38 38 | 30.5 | -22.4 | 9.0 | | 29.4 | 438 | 8642 | 03 19 01 |
| 03 27 00 | J1241+602 | 21 39 08 | 29.1 | -24.0 | 9.0 | | 29.5 | 11 | 8642 | 03 27 00 |
| 03 28 30 | --- | 21 40 39 | 29.0 | -23.8 | 9.0 | | 29.3 | 90 | 8654 | 03 27 01 |
| 03 28 40 | J1234+619 | 21 40 49 | 30.0 | -22.0 | 9.1 | | 28.5 | -7 | 8654 | 03 28 40 |
| 03 30 10 | --- | 21 42 19 | 29.9 | -21.8 | 9.1 | | 28.3 | 83 | 8665 | 03 28 41 |
| 03 30 10 | EFJB-P2 | 21 42 19 | 30.3 | -22.0 | 9.1 | | 28.8 | -12 | 8665 | No stop |
| 03 37 40 | --- | 21 49 50 | 29.9 | -21.1 | 9.2 | | 27.6 | 438 | 8723 | 03 30 11 |
| 03 38 00 | J1234+619 | 21 50 10 | 29.5 | -20.9 | 9.3 | | 27.0 | 8 | 8723 | 03 38 00 |
| 03 39 30 | --- | 21 51 40 | 29.4 | -20.7 | 9.3 | | 26.8 | 90 | 8735 | 03 38 01 |
| 03 39 30 | EFJB-P2 | 21 51 40 | 29.8 | -20.9 | 9.2 | | 27.3 | -12 | 8735 | No stop |
| 03 47 00 | --- | 21 59 12 | 29.4 | -20.0 | 9.4 | | 26.0 | 438 | 8792 | 03 39 31 |
| 03 47 00 | J1234+619 | 21 59 12 | 29.0 | -19.8 | 9.4 | | 25.6 | -12 | 8792 | No stop |
| 03 48 30 | --- | 22 00 42 | 29.0 | -19.6 | 9.4 | | 25.3 | 78 | 8804 | 03 47 01 |

Schedule for TORUN (Code Tr ) Page 21

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 6 Jun 2014 Day 157 --- | | | | | | | | | | |
| 03 48 30 | EFJB-P2 | 22 00 42 | 29.3 | -19.8 | 9.4 | | 25.8 | -12 | 8804 | No stop |
| 03 56 00 | --- | 22 08 13 | 28.9 | -18.9 | 9.5 | | 24.6 | 438 | 8862 | 03 48 31 |
| 03 56 30 | J1241+602 | 22 08 43 | 27.4 | -20.3 | 9.4 | | 24.8 | 11 | 8862 | 03 56 30 |
| 03 58 00 | --- | 22 10 14 | 27.4 | -20.1 | 9.5 | | 24.6 | 90 | 8873 | 03 56 31 |
| 03 58 10 | J1234+619 | 22 10 24 | 28.5 | -18.4 | 9.6 | | 23.7 | -7 | 8873 | 03 58 10 |
| 03 59 40 | --- | 22 11 54 | 28.4 | -18.2 | 9.6 | | 23.5 | 83 | 8885 | 03 58 11 |
| 03 59 40 | EFJB-P3 | 22 11 54 | 28.8 | -18.4 | 9.6 | | 24.0 | -12 | 8885 | No stop |
| 04 07 10 | --- | 22 19 25 | 28.4 | -17.5 | 9.7 | | 22.8 | 438 | 8942 | 03 59 41 |
| 04 07 30 | J1234+619 | 22 19 45 | 28.1 | -17.3 | 9.7 | | 22.2 | 8 | 8942 | 04 07 30 |
| 04 09 00 | --- | 22 21 15 | 28.0 | -17.1 | 9.8 | | 22.0 | 90 | 8954 | 04 07 31 |
| 04 09 00 | EFJB-P3 | 22 21 15 | 28.3 | -17.3 | 9.7 | | 22.5 | -12 | 8954 | No stop |
| 04 16 30 | --- | 22 28 47 | 28.0 | -16.4 | 9.9 | | 21.2 | 438 | 9012 | 04 09 01 |
| 04 16 30 | J1234+619 | 22 28 47 | 27.7 | -16.1 | 9.9 | | 20.8 | -12 | 9012 | No stop |
| 04 18 00 | --- | 22 30 17 | 27.6 | -16.0 | 9.9 | | 20.5 | 78 | 9023 | 04 16 31 |
| 04 18 00 | EFJB-P3 | 22 30 17 | 27.9 | -16.2 | 9.9 | | 21.0 | -12 | 9023 | No stop |
| 04 25 30 | --- | 22 37 48 | 27.6 | -15.3 | 10.0 | | 19.8 | 438 | 9081 | 04 18 01 |
| 04 26 00 | J1241+602 | 22 38 18 | 26.0 | -16.5 | 9.9 | | 20.1 | 10 | 9081 | 04 26 00 |
| 04 27 30 | --- | 22 39 48 | 26.0 | -16.3 | 10.0 | | 19.9 | 90 | 9092 | 04 26 01 |
| 04 27 40 | J1234+619 | 22 39 58 | 27.2 | -14.7 | 10.1 | | 18.9 | -8 | 9092 | 04 27 40 |
| 04 29 10 | --- | 22 41 29 | 27.2 | -14.6 | 10.1 | | 18.7 | 82 | 9104 | 04 27 41 |
| 04 29 10 | EFJB-P4 | 22 41 29 | 27.5 | -14.8 | 10.1 | | 19.2 | -12 | 9104 | No stop |
| 04 36 40 | --- | 22 49 00 | 27.2 | -13.9 | 10.2 | | 17.9 | 438 | 9162 | 04 29 11 |
| 04 37 00 | J1234+619 | 22 49 20 | 26.9 | -13.6 | 10.2 | | 17.4 | 8 | 9162 | 04 37 00 |
| 04 38 30 | --- | 22 50 50 | 26.8 | -13.4 | 10.3 | | 17.2 | 90 | 9173 | 04 37 01 |
| 04 38 30 | EFJB-P4 | 22 50 50 | 27.1 | -13.6 | 10.2 | | 17.6 | -12 | 9173 | No stop |
| 04 46 00 | --- | 22 58 21 | 26.9 | -12.7 | 10.3 | | 16.4 | 438 | 9231 | 04 38 31 |
| 04 46 00 | J1234+619 | 22 58 21 | 26.6 | -12.4 | 10.4 | | 15.9 | -12 | 9231 | No stop |
| 04 47 30 | --- | 22 59 52 | 26.5 | -12.2 | 10.4 | | 15.7 | 78 | 9242 | 04 46 01 |
| 04 47 30 | EFJB-P4 | 22 59 52 | 26.8 | -12.5 | 10.4 | | 16.1 | -11 | 9242 | No stop |
| 04 55 00 | --- | 23 07 23 | 26.6 | -11.5 | 10.5 | | 14.9 | 439 | 9300 | 04 47 31 |

Schedule for TORUN (Code Tr ) Page 22

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 6 Jun 2014 Day 157 --- | | | | | | | | | | |
| 04 55 30 | J1241+602 | 23 07 53 | 24.9 | -12.6 | 10.4 | | 15.3 | 10 | 9300 | 04 55 30 |
| 04 57 00 | --- | 23 09 23 | 24.9 | -12.4 | 10.5 | | 15.1 | 90 | 9312 | 04 55 31 |
| 04 57 10 | J1234+619 | 23 09 33 | 26.2 | -11.0 | 10.6 | | 14.1 | -8 | 9312 | 04 57 10 |
| 04 58 40 | --- | 23 11 03 | 26.2 | -10.8 | 10.6 | | 13.8 | 82 | 9323 | 04 57 11 |
| 04 58 40 | EFJB-P1 | 23 11 03 | 26.5 | -11.1 | 10.6 | | 14.3 | -11 | 9323 | No stop |
| 05 06 10 | --- | 23 18 35 | 26.3 | -10.1 | 10.7 | | 13.1 | 439 | 9381 | 04 58 41 |
| 05 06 30 | J1234+619 | 23 18 55 | 26.0 | -9.8 | 10.7 | | 12.5 | 9 | 9381 | 05 06 30 |
| 05 08 00 | --- | 23 20 25 | 25.9 | -9.6 | 10.8 | | 12.3 | 90 | 9392 | 05 06 31 |
| 05 08 00 | EFJB-P1 | 23 20 25 | 26.2 | -9.9 | 10.7 | | 12.8 | -11 | 9392 | No stop |
| 05 15 30 | --- | 23 27 56 | 26.1 | -8.9 | 10.8 | | 11.5 | 439 | 9450 | 05 08 01 |
| 05 15 30 | J1234+619 | 23 27 56 | 25.8 | -8.7 | 10.9 | | 11.1 | -11 | 9450 | No stop |
| 05 17 00 | --- | 23 29 27 | 25.7 | -8.5 | 10.9 | | 10.8 | 79 | 9462 | 05 15 31 |
| 05 17 00 | EFJB-P1 | 23 29 27 | 26.0 | -8.7 | 10.9 | | 11.3 | -11 | 9462 | No stop |
| 05 24 30 | --- | 23 36 58 | 25.9 | -7.8 | 11.0 | | 10.0 | 439 | 9519 | 05 17 01 |
| 05 25 00 | J1241+602 | 23 37 28 | 24.1 | -8.7 | 10.9 | | 10.6 | 10 | 9519 | 05 25 00 |
| 05 26 30 | --- | 23 38 58 | 24.1 | -8.5 | 10.9 | | 10.3 | 90 | 9531 | 05 25 01 |
| 05 26 40 | J1234+619 | 23 39 08 | 25.5 | -7.2 | 11.1 | | 9.2 | -9 | 9531 | 05 26 40 |
| 05 28 10 | --- | 23 40 38 | 25.5 | -7.0 | 11.1 | | 9.0 | 81 | 9542 | 05 26 41 |
| 05 28 10 | EFJB-P2 | 23 40 38 | 25.8 | -7.3 | 11.1 | | 9.4 | -11 | 9542 | No stop |
| 05 35 40 | --- | 23 48 10 | 25.6 | -6.4 | 11.2 | | 8.2 | 439 | 9600 | 05 28 11 |
| 05 36 00 | J1234+619 | 23 48 30 | 25.4 | -6.0 | 11.2 | | 7.7 | 9 | 9600 | 05 36 00 |
| 05 37 30 | --- | 23 50 00 | 25.3 | -5.8 | 11.3 | | 7.4 | 90 | 9612 | 05 36 01 |
| 05 37 30 | EFJB-P2 | 23 50 00 | 25.6 | -6.1 | 11.2 | | 7.9 | -11 | 9612 | No stop |
| 05 45 00 | --- | 23 57 31 | 25.5 | -5.2 | 11.3 | | 6.6 | 439 | 9669 | 05 37 31 |
| 05 45 00 | J1234+619 | 23 57 31 | 25.2 | -4.8 | 11.4 | | 6.2 | -11 | 9669 | No stop |
| 05 46 30 | --- | 23 59 01 | 25.2 | -4.6 | 11.4 | | 5.9 | 79 | 9681 | 05 45 01 |
| 05 46 30 | EFJB-P2 | 23 59 01 | 25.5 | -5.0 | 11.4 | | 6.4 | -11 | 9681 | No stop |
| 05 54 00 | --- | 00 06 33 | 25.4 | -4.0 | 11.5 | | 5.1 | 439 | 9738 | 05 46 31 |
| 05 54 30 | J1241+602 | 00 07 03 | 23.6 | -4.7 | 11.4 | | 5.7 | 9 | 9738 | 05 54 30 |
| 05 56 00 | --- | 00 08 33 | 23.6 | -4.5 | 11.4 | | 5.5 | 90 | 9750 | 05 54 31 |

Schedule for TORUN (Code Tr ) Page 23

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 6 Jun 2014 Day 157 --- | | | | | | | | | | |
| 05 56 10 | J1234+619 | 00 08 43 | 25.1 | -3.4 | 11.6 | | 4.3 | -9 | 9750 | 05 56 10 |
| 05 57 40 | --- | 00 10 13 | 25.1 | -3.2 | 11.6 | | 4.1 | 81 | 9762 | 05 56 11 |
| 05 57 40 | EFJB-P3 | 00 10 13 | 25.4 | -3.5 | 11.5 | | 4.5 | -11 | 9762 | No stop |
| 06 05 10 | --- | 00 17 44 | 25.3 | -2.5 | 11.7 | | 3.3 | 439 | 9819 | 05 57 41 |
| 06 05 30 | J1234+619 | 00 18 04 | 25.0 | -2.2 | 11.7 | | 2.8 | 9 | 9819 | 06 05 30 |
| 06 07 00 | --- | 00 19 35 | 25.0 | -2.0 | 11.7 | | 2.5 | 90 | 9831 | 06 05 31 |
| 06 07 00 | EFJB-P3 | 00 19 35 | 25.3 | -2.3 | 11.7 | | 3.0 | -11 | 9831 | No stop |
| 06 14 30 | --- | 00 27 06 | 25.3 | -1.3 | 11.8 | | 1.7 | 439 | 9888 | 06 07 01 |
| 06 14 30 | J1234+619 | 00 27 06 | 25.0 | -1.0 | 11.9 | | 1.3 | -11 | 9888 | No stop |
| 06 16 00 | --- | 00 28 36 | 25.0 | -0.8 | 11.9 | | 1.0 | 79 | 9900 | 06 14 31 |
| 06 16 00 | EFJB-P3 | 00 28 36 | 25.2 | -1.1 | 11.9 | | 1.5 | -11 | 9900 | No stop |
| 06 23 30 | --- | 00 36 07 | 25.2 | -0.2 | 12.0 | | 0.2 | 439 | 9958 | 06 16 01 |
| 06 24 00 | J1241+602 | 00 36 38 | 23.4 | -0.7 | 11.9 | | 0.9 | 9 | 9958 | 06 24 00 |
| 06 25 30 | --- | 00 38 08 | 23.4 | -0.5 | 11.9 | | 0.7 | 90 | 9969 | 06 24 01 |
| 06 25 40 | J1234+619 | 00 38 18 | 25.0 | 0.4 | -11.9 | | -0.6 | -10 | 9969 | 06 25 40 |
| 06 27 10 | --- | 00 39 48 | 25.0 | 0.6 | -11.9 | | -0.8 | 80 | 9981 | 06 25 41 |
| 06 27 10 | EFJB-P4 | 00 39 48 | 25.2 | 0.3 | -12.0 | | -0.4 | -11 | 9981 | No stop |
| 06 34 40 | --- | 00 47 19 | 25.3 | 1.3 | -11.8 | | -1.6 | 439 | 10038 | 06 27 11 |
| 06 35 00 | J1234+619 | 00 47 39 | 25.0 | 1.7 | -11.8 | | -2.1 | 9 | 10038 | 06 35 00 |
| 06 36 30 | --- | 00 49 10 | 25.0 | 1.9 | -11.8 | | -2.4 | 90 | 10050 | 06 35 01 |
| 06 36 30 | EFJB-P4 | 00 49 10 | 25.3 | 1.5 | -11.8 | | -1.9 | -11 | 10050 | No stop |
| 06 44 00 | --- | 00 56 41 | 25.3 | 2.5 | -11.7 | | -3.2 | 439 | 10108 | 06 36 31 |
| 06 44 00 | J1234+619 | 00 56 41 | 25.1 | 2.8 | -11.6 | | -3.6 | -10 | 10108 | No stop |
| 06 45 30 | --- | 00 58 11 | 25.1 | 3.0 | -11.6 | | -3.9 | 80 | 10119 | 06 44 01 |
| 06 45 30 | EFJB-P4 | 00 58 11 | 25.3 | 2.7 | -11.7 | | -3.4 | -10 | 10119 | No stop |
| 06 53 00 | --- | 01 05 42 | 25.4 | 3.6 | -11.5 | | -4.7 | 440 | 10177 | 06 45 31 |
| 06 53 30 | J1241+602 | 01 06 12 | 23.5 | 3.2 | -11.6 | | -3.9 | 9 | 10177 | 06 53 30 |
| 06 55 00 | --- | 01 07 43 | 23.5 | 3.5 | -11.6 | | -4.2 | 90 | 10188 | 06 53 31 |
| 06 55 10 | J1234+619 | 01 07 53 | 25.2 | 4.3 | -11.4 | | -5.5 | -10 | 10188 | 06 55 10 |
| 06 56 40 | --- | 01 09 23 | 25.2 | 4.5 | -11.4 | | -5.7 | 80 | 10200 | 06 55 11 |

Schedule for TORUN (Code Tr ) Page 24

Ultra Deep EVN Observations of HDF North

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 6 Jun 2014 Day 157 --- | | | | | | | | | | |
| 06 56 40 | EFJB-P1 | 01 09 23 | 25.4 | 4.1-11.5 | | | -5.3 | -10 | 10200 | No stop |
| 07 04 10 | --- | 01 16 54 | 25.5 | 5.1-11.3 | | | -6.5 | 440 | 10258 | 06 56 41 |
| 07 04 30 | J1234+619 | 01 17 14 | 25.3 | 5.5-11.3 | | | -7.0 | 9 | 10258 | 07 04 30 |
| 07 06 00 | --- | 01 18 44 | 25.3 | 5.7-11.3 | | | -7.3 | 90 | 10269 | 07 04 31 |
| 07 06 00 | EFJB-P1 | 01 18 44 | 25.5 | 5.3-11.3 | | | -6.8 | -10 | 10269 | No stop |
| 07 13 30 | --- | 01 26 16 | 25.6 | 6.3-11.2 | | | -8.1 | 440 | 10327 | 07 06 01 |
| 07 13 30 | J1234+619 | 01 26 16 | 25.4 | 6.7-11.1 | | | -8.5 | -11 | 10327 | No stop |
| 07 15 00 | --- | 01 27 46 | 25.5 | 6.9-11.1 | | | -8.8 | 79 | 10338 | 07 13 31 |
| 07 15 00 | EFJB-P1 | 01 27 46 | 25.7 | 6.5-11.2 | | | -8.3 | -10 | 10338 | No stop |
| 07 22 30 | --- | 01 35 17 | 25.8 | 7.4-11.0 | | | -9.6 | 440 | 10396 | 07 15 01 |
| 07 23 00 | J1241+602 | 01 35 47 | 23.9 | 7.2-11.1 | | | -8.8 | 9 | 10396 | 07 23 00 |
| 07 24 30 | --- | 01 37 17 | 23.9 | 7.4-11.1 | | | -9.0 | 90 | 10408 | 07 23 01 |
| 07 24 40 | J1234+619 | 01 37 27 | 25.7 | 8.1-11.0 | | | -10.4 | -10 | 10408 | 07 24 40 |
| 07 26 10 | --- | 01 38 58 | 25.7 | 8.3-10.9 | | | -10.6 | 80 | 10419 | 07 24 41 |
| 07 26 10 | EFJB-P2 | 01 38 58 | 25.9 | 7.9-11.0 | | | -10.2 | -10 | 10419 | No stop |
| 07 33 40 | --- | 01 46 29 | 26.0 | 8.9-10.8 | | | -11.4 | 440 | 10477 | 07 26 11 |
| 07 34 00 | J1234+619 | 01 46 49 | 25.9 | 9.3-10.8 | | | -11.9 | 9 | 10477 | 07 34 00 |
| 07 35 30 | --- | 01 48 19 | 25.9 | 9.5-10.8 | | | -12.1 | 90 | 10488 | 07 34 01 |
| 07 35 30 | EFJB-P2 | 01 48 19 | 26.1 | 9.1-10.8 | | | -11.7 | -11 | 10488 | No stop |
| 07 43 00 | --- | 01 55 50 | 26.3 | 10.1-10.7 | | | -13.0 | 439 | 10546 | 07 35 31 |
| 07 43 00 | J1234+619 | 01 55 50 | 26.1 | 10.5-10.7 | | | -13.4 | -11 | 10546 | No stop |
| 07 44 30 | --- | 01 57 21 | 26.1 | 10.7-10.6 | | | -13.6 | 79 | 10558 | 07 43 01 |
| 07 44 30 | EFJB-P2 | 01 57 21 | 26.3 | 10.3-10.7 | | | -13.2 | -11 | 10558 | No stop |
| 07 52 00 | --- | 02 04 52 | 26.5 | 11.2-10.5 | | | -14.5 | 439 | 10615 | 07 44 31 |
| 07 54 00 | DA193 | 02 06 52 | 49.5 | 85.3 -3.8 | | | -51.2 | -43 | 10615 | 07 54 00 |
| 08 00 00 | --- | 02 12 53 | 50.4 | 86.4 -3.7 | | | -51.3 | 317 | 10662 | 07 54 01 |

```
SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess214.L1024
 --- WARNING ---  This group does not match an entry in the frequency catalog.
                  This might be ok because the catalog is not complete.
                  But be very careful to be sure that the setup is correct.

  Setup group:    9          Station: TORUN            Total bit rate:  1024
  Format: MARK5B             Bits per sample: 2        Sample rate: 32.000
  Number of channels: 16     DBE type: DBBC_DDC        Speedup factor:   1.00

  Disk used to record data.

  1st LO=   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
            2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00   2300.00
  Net SB=         L         L         U         U         L         L         U         U
                  L         L         U         U         L         L         U         U
  IF SB =         L         L         L         L         L         L         L         L
                  L         L         L         L         L         L         L         L
  Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
  BBC   =         1         5         1         5         2         6         2         6
                  3         7         3         7         4         8         4         8
  BBC SB=         U         U         L         L         U         U         L         L
                  U         U         L         L         U         U         L         L
  IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                 A1        B1        A1        B1        A1        B1        A1        B1

 The following frequency sets based on these setups were used.

  Frequency Set:   4  Setup file default.  Used with PCAL = off
  LO sum=   1610.49  1610.49  1610.49  1610.49  1642.49  1642.49  1642.49  1642.49
            1674.49  1674.49  1674.49  1674.49  1706.49  1706.49  1706.49  1706.49
  BBC fr=    689.51   689.51   689.51   689.51   657.51   657.51   657.51   657.51
             625.51   625.51   625.51   625.51   593.51   593.51   593.51   593.51
  Bandwd=     16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
              16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
   Matching frequency sets:   4

  Track assignments are:
   track1=   2, 10, 18, 26,  4, 12, 20, 28,  6, 14, 22, 30,  8, 16, 24, 32
   barrel=roll_off
```

POSITIONS OF SOURCES USED IN RECORDING SCANS

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * J1241+602 | 12 39 16.511005 | * 12 41 29.590564 | 12 42 08.331223 | 0.00 |
| | 60 37 07.62444 | * 60 20 41.32233 | 60 16 10.53347 | 0.00 |
| * J1234+619 | 12 31 56.132262 | * 12 34 11.743000 | 12 34 51.100201 | 0.00 |
| | 62 15 03.88430 | * 61 58 32.48000 | 61 54 00.41245 | 0.00 |
| * HDF-N | 12 34 36.033130 | * 12 36 50.000000 | 12 37 28.912790 | 0.00 |
| | 62 29 27.67047 | * 62 12 58.00000 | 62 08 26.51709 | 0.00 |
| * EFJB-P1 | 12 34 36.033130 | * 12 36 50.000000 | 12 37 28.912790 | 0.00 |
| | 62 29 27.67047 | * 62 12 58.00000 | 62 08 26.51709 | 0.00 |
| * EFJB-P2 | 12 34 36.033130 | * 12 36 50.000000 | 12 37 28.912790 | 0.00 |
| | 62 29 27.67047 | * 62 12 58.00000 | 62 08 26.51709 | 0.00 |
| * EFJB-P3 | 12 34 36.033130 | * 12 36 50.000000 | 12 37 28.912790 | 0.00 |
| | 62 29 27.67047 | * 62 12 58.00000 | 62 08 26.51709 | 0.00 |
| * EFJB-P4 | 12 34 36.033130 | * 12 36 50.000000 | 12 37 28.912790 | 0.00 |
| | 62 29 27.67047 | * 62 12 58.00000 | 62 08 26.51709 | 0.00 |
| J0555+3948 | 05 52 01.407174 | * 05 55 30.805616 | 05 56 30.135028 | 0.13 |
| * DA193 | 39 48 21.94578 | * 39 48 49.16493 | 39 48 46.84785 | 0.10 |
| J1642+3948 | 16 41 17.606228 | * 16 42 58.809965 | 16 43 29.867429 | 0.77 |
| * 3C345 | 39 54 10.81496 | * 39 48 36.99402 | 39 47 08.63070 | 0.52 |

EFFECT OF SOLAR CORONA

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) | Source | Sun distance (deg) |
|---|---|---|---|
| J1241+602 | 82.7 | EFJB-P3 | 81.2 |
| J1234+619 | 81.0 | EFJB-P4 | 81.2 |
| HDF-N | 81.2 | DA193 | 21.6 |
| EFJB-P1 | 81.2 | 3C345 | 117.6 |
| EFJB-P2 | 81.2 | | |

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
that the Sun will cause amplitude reductions on the longest VLBA baselines
at a solar distance of 60deg F^(-0.6) where F is in GHz.
For common VLBI bands, this is:

| | | | |
|---|---|---|---|
| 327 MHz | 117. deg | 8.4 GHz | 17. deg |
| 610 MHz | 81. deg | 15.0 GHz | 12. deg |
| 1.6 GHz | 45. deg | 22.0 GHz | 9. deg |
| 2.3 GHz | 36. deg | 43.0 GHz | 6. deg |
| 5.0 GHz | 23. deg | | |

# f14c2tr

## 6cm FTP Fringe Test F14C2

PI: *Ciriaco GODDI*

Address: JIVE Postbus 2 7990 AA Dwingeloo The Netherlands
Phone: +31-521-596548 EMAIL: goddi@jive.nl
Phone during observation: +31-521-596548

Notes: 6cm FTP Fringe Test for Session 2/2014
512 Mbps, L+R, 2-bit sampling, 16 MHz filters (USB-only mode)
Please send the disk pack by express to JIVE

COVER LETTER:

This is the schedule for the 6cm ftp fringe-test F14C2 on 09 June 2014
involving 14 antennas: Eb Wb Jb1 Cm On25 Nt Tr Sv Zc Bd Sh T6 Hh Ys (Yd, Td).
Stations testing their new DBBC backends are also included:
YS_DBBC (Yd) and TM_DBBC (Td).
The ftp test uses a USB-only/16MHz setup with 512 Mbps.
The schedule consists of long integrations on QSO J0559+2353 (1 Jy at 5 GHz)
and standard fringe finder DA193 (5 Jy at 5 GHz).

There are two ftp fringe-test scans

(1) 10:39:00 UT (scan 2, 2 sec, J0559+2353)

(2) 11:15:00 UT (scan 6, 2 sec, DA193)

Please make sure that the autoftp is set up correctly.

See you on Skype group chat
and
Good luck with the session!

Ciriaco Goddi
Support Scientist, JIVE
Skype account: ciriaco.goddi

```
Schedule for TORUN     (Code Tr )                                  Page   2
              6cm FTP Fringe Test F14C2
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source              Start / Stop                  Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Mon   9 Jun 2014   Day 160 ---

 Next scan frequencies:  4958.49  4958.49  4974.49  4974.49  4990.49  4990.49  5006.49  5006.49
 Next BBC frequencies:    758.49   758.49   774.49   774.49   790.49   790.49   806.49   806.49
 Next scan bandwidths:     16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00

10 30 00  J0559+2353   04 55 08  58.3 150.7 -1.1     -18.7     0        0   10 30 00
10 34 00  =0556+238    04 59 08  58.6 152.4 -1.0     -17.7   240       15   10 30 01

10 36 00  J0559+2353   05 01 09  58.7 153.2 -1.0     -17.2   113       15   10 36 00
10 40 00  =0556+238    05 05 09  59.0 154.9 -0.9     -16.2   240       31   10 36 01

10 42 00  J0559+2353   05 07 10  59.1 155.8 -0.9     -15.6   113       31   10 42 00
10 52 00  =0556+238    05 17 11  59.7 160.2 -0.7     -12.9   600       70   10 42 01

10 54 00  J0559+2353   05 19 12  59.8 161.0 -0.7     -12.3   113       70   10 54 00
11 04 00  =0556+238    05 29 13  60.2 165.5 -0.5      -9.4   600      108   10 54 01

11 08 00  DA193        05 33 14  76.1 161.0 -0.4     -14.7   167      108   11 08 00
11 11 00  ---          05 36 14  76.3 163.4 -0.3     -12.9   180      120   11 08 01

11 13 00  DA193        05 38 15  76.4 165.0 -0.3     -11.7   112      120   11 13 00
11 17 00  ---          05 42 15  76.5 168.2 -0.2      -9.2   240      135   11 13 01

11 20 00  DA193        05 45 16  76.6 170.7 -0.2      -7.3   171      135   11 20 00
11 30 00  ---          05 55 17  76.7 179.0 -0.0      -0.8   600      174   11 20 01


SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess214.C512
 --- WARNING ---  This group does not match an entry in the frequency catalog.
                  This might be ok because the catalog is not complete.
                  But be very careful to be sure that the setup is correct.

   Setup group:   12         Station: TORUN            Total bit rate:  512
   Format: MARK5B            Bits per sample: 2        Sample rate: 32.000
   Number of channels:  8    DBE type:                 Speedup factor:   1.00

   Disk used to record data.

   1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
   Net SB=         U         U         U         U         U         U         U         U
   Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
   BBC   =         1         5         2         6         3         7         4         8
   BBC SB=         U         U         U         U         U         U         U         U
   IF    =        A1        B1        A1        B1        A1        B1        A1        B1
```

```
 The following frequency sets based on these setups were used.

  Frequency Set:   7  Setup file default.
  LO sum=   4958.49  4958.49  4974.49  4974.49  4990.49  4990.49  5006.49  5006.49
  BBC fr=    758.49   758.49   774.49   774.49   790.49   790.49   806.49   806.49
  Bandwd=     16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
   Matching frequency sets:   7

  Track assignments are:
   track1=   2,  4,  6,  8, 10, 12, 14, 16
   barrel=roll_off



SOURCES USED IN RECORDING SCANS --          6cm FTP Fringe Test F14C2
    Catalog positions marked with *.
    Precession of date coordinates is based on stop time of first scan.
    Names used in schedule marked with *.
    Short names used in VLA and SNAP files marked with +.
    Observation date used in B1950/J2000 coordinate conversion (PRECDATE):  1979.900
    No adjustments are made for rates (DRA, DDEC).
    Scan hours are for recording scans only.
    Baseline hours are only counted for scans above horizon at both ends.

  Source                        Source position (RA/Dec)                        Error
                       (B1950)            (J2000)            (Date)            (mas)

  J0555+3948        05 52 01.407174   * 05 55 30.805616     05 56 30.144399       0.13
* DA193             39 48 21.94578    * 39 48 49.16493      39 48 46.39656        0.10

* J0559+2353        05 56 28.691736   * 05 59 32.033135     06 00 24.043242       0.11
  0556+238          23 53 45.20881    * 23 53 53.92668      23 53 45.16862        0.10


 The solar corona can cause unstable phases for sources too close to the Sun.
 SCHED provides warnings at individual scans for distances less than 10 degrees.
 The distance from the Sun to each source in this schedule is:
   Source         Sun distance (deg)
  DA193               19.5
  J0559+2353          11.5

 Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
 that the Sun will cause amplitude reductions on the  longest VLBA baselines
 at a solar distance of 60deg F^(-0.6) where F is in GHz.
 For common VLBI bands, this is:
      327 MHz        117. deg
      610 MHz         81. deg
      1.6 GHz         45. deg
      2.3 GHz         36. deg
      5.0 GHz         23. deg
      8.4 GHz         17. deg
     15.0 GHz         12. deg
     22.0 GHz          9. deg
     43.0 GHz          6. deg
```

# ep087htr

## ARP 299-A AT 1 GB/S

PI: *Miguel A. Perez-Torres*

Address: IAA - CSIC Glorieta de la Astronomia s/n 18008 Granada, Spain
Phone: +34-665252538 EMAIL: torres@iaa.es
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Observing mode: 1024 Mbps
Notes: Phase-ref of Arp 299 with the full EVN; Reobservations of EP087D at 6 cm (23/10/13)

Schedule for TORUN (Code Tr ) Page 2
Arp 299-A at 1 Gb/s
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 9 Jun 2014 Day 160 --- | | | | | | | | | | |
| Next scan frequencies: | | 4942.49 | 4942.49 | 4942.49 | 4942.49 | 4974.49 | 4974.49 | 4974.49 | 4974.49 | |
| | | 5006.49 | 5006.49 | 5006.49 | 5006.49 | 5038.49 | 5038.49 | 5038.49 | 5038.49 | |
| Next BBC frequencies: | | 742.49 | 742.49 | 742.49 | 742.49 | 774.49 | 774.49 | 774.49 | 774.49 | |
| | | 806.49 | 806.49 | 806.49 | 806.49 | 838.49 | 838.49 | 838.49 | 838.49 | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | |
| | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | |
| 12 30 00 | 4C39.25 | 06 55 27 | 60.5 | 103.1 | -2.5 | | -48.8 | 0 | 0 | 12 30 00 |
| 12 33 00 | --- | 06 58 28 | 60.9 | 103.9 | -2.5 | | -48.6 | 180 | 23 | 12 30 01 |
| 12 33 00 | 4C39.25 | 06 58 28 | 60.9 | 103.9 | -2.5 | | -48.6 | -5 | 23 | No stop |
| 12 35 00 | --- | 07 00 28 | 61.2 | 104.4 | -2.5 | | -48.4 | 115 | 38 | 12 33 01 |
| 12 43 00 | J1128+5925 | 07 08 29 | 54.7 | 53.3 | -4.3 | | -70.7 | 362 | 38 | 12 43 00 |
| 12 43 30 | --- | 07 09 00 | 54.8 | 53.3 | -4.3 | | -70.8 | 30 | 42 | 12 43 01 |
| 12 43 30 | ARP299 | 07 09 00 | 54.5 | 54.7 | -4.3 | | -69.6 | -16 | 42 | No stop |
| 12 47 20 | --- | 07 12 50 | 54.9 | 55.0 | -4.3 | | -70.2 | 214 | 72 | 12 43 31 |
| 12 47 20 | J1128+5925 | 07 12 50 | 55.3 | 53.6 | -4.3 | | -71.4 | -16 | 72 | No stop |
| 12 48 20 | --- | 07 13 50 | 55.4 | 53.7 | -4.3 | | -71.6 | 44 | 79 | 12 47 21 |
| 12 48 20 | ARP299 | 07 13 50 | 55.1 | 55.1 | -4.3 | | -70.3 | -16 | 79 | No stop |
| 12 52 20 | --- | 07 17 51 | 55.6 | 55.4 | -4.2 | | -70.9 | 224 | 110 | 12 48 21 |
| 12 53 00 | J1128+5925 | 07 18 31 | 56.0 | 54.0 | -4.2 | | -72.3 | 24 | 110 | 12 53 00 |
| 12 53 30 | --- | 07 19 01 | 56.0 | 54.0 | -4.2 | | -72.4 | 30 | 114 | 12 53 01 |
| 12 53 30 | ARP299 | 07 19 01 | 55.7 | 55.5 | -4.2 | | -71.1 | -16 | 114 | No stop |
| 12 57 30 | --- | 07 23 02 | 56.2 | 55.7 | -4.1 | | -71.7 | 224 | 145 | 12 53 31 |
| 12 57 30 | J1128+5925 | 07 23 02 | 56.5 | 54.3 | -4.1 | | -73.0 | -16 | 145 | No stop |
| 12 58 30 | --- | 07 24 02 | 56.6 | 54.4 | -4.1 | | -73.2 | 44 | 153 | 12 57 31 |

Schedule for TORUN (Code Tr ) Page 3

Arp 299-A at 1 Gb/s

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 9 Jun 2014 Day 160 --- | | | | | | | | | | |
| 12 58 30 | ARP299 | 07 24 02 | 56.3 | 55.8 | -4.1 | | -71.9 | -16 | 153 | No stop |
| 13 02 30 | --- | 07 28 03 | 56.8 | 56.1 | -4.0 | | -72.5 | 224 | 183 | 12 58 31 |
| 13 02 30 | J1128+5925 | 07 28 03 | 57.1 | 54.6 | -4.0 | | -73.8 | -16 | 183 | No stop |
| 13 03 30 | --- | 07 29 03 | 57.2 | 54.7 | -4.0 | | -74.0 | 44 | 191 | 13 02 31 |
| 13 03 30 | ARP299 | 07 29 03 | 57.0 | 56.2 | -4.0 | | -72.6 | -16 | 191 | No stop |
| 13 07 30 | --- | 07 33 03 | 57.5 | 56.5 | -3.9 | | -73.3 | 224 | 222 | 13 03 31 |
| 13 08 10 | J1128+5925 | 07 33 44 | 57.8 | 55.0 | -3.9 | | -74.7 | 24 | 222 | 13 08 10 |
| 13 08 40 | --- | 07 34 14 | 57.9 | 55.0 | -3.9 | | -74.8 | 30 | 226 | 13 08 11 |
| 13 08 40 | ARP299 | 07 34 14 | 57.6 | 56.6 | -3.9 | | -73.4 | -16 | 226 | No stop |
| 13 12 40 | --- | 07 38 14 | 58.1 | 56.8 | -3.9 | | -74.1 | 224 | 256 | 13 08 41 |
| 13 12 40 | J1128+5925 | 07 38 14 | 58.4 | 55.3 | -3.8 | | -75.5 | -16 | 256 | No stop |
| 13 13 40 | --- | 07 39 14 | 58.5 | 55.3 | -3.8 | | -75.6 | 44 | 264 | 13 12 41 |
| 13 13 40 | ARP299 | 07 39 14 | 58.2 | 56.9 | -3.8 | | -74.2 | -16 | 264 | No stop |
| 13 17 40 | --- | 07 43 15 | 58.7 | 57.2 | -3.8 | | -74.8 | 224 | 295 | 13 13 41 |
| 13 17 40 | J1128+5925 | 07 43 15 | 59.0 | 55.6 | -3.8 | | -76.3 | -16 | 295 | No stop |
| 13 18 40 | --- | 07 44 15 | 59.1 | 55.6 | -3.7 | | -76.4 | 44 | 303 | 13 17 41 |
| 13 18 40 | ARP299 | 07 44 15 | 58.9 | 57.2 | -3.8 | | -75.0 | -16 | 303 | No stop |
| 13 22 40 | --- | 07 48 16 | 59.4 | 57.5 | -3.7 | | -75.6 | 224 | 333 | 13 18 41 |
| 13 23 20 | J1128+5925 | 07 48 56 | 59.7 | 55.9 | -3.7 | | -77.2 | 24 | 333 | 13 23 20 |
| 13 23 50 | --- | 07 49 26 | 59.8 | 55.9 | -3.7 | | -77.3 | 30 | 337 | 13 23 21 |
| 13 23 50 | ARP299 | 07 49 26 | 59.5 | 57.6 | -3.7 | | -75.8 | -16 | 337 | No stop |
| 13 27 50 | --- | 07 53 27 | 60.0 | 57.8 | -3.6 | | -76.5 | 224 | 368 | 13 23 51 |
| 13 27 50 | J1128+5925 | 07 53 27 | 60.3 | 56.1 | -3.6 | | -78.0 | -16 | 368 | No stop |
| 13 28 50 | --- | 07 54 27 | 60.4 | 56.2 | -3.6 | | -78.1 | 44 | 376 | 13 27 51 |
| 13 28 50 | ARP299 | 07 54 27 | 60.2 | 57.9 | -3.6 | | -76.6 | -17 | 376 | No stop |
| 13 32 50 | --- | 07 58 28 | 60.7 | 58.1 | -3.5 | | -77.3 | 223 | 406 | 13 28 51 |
| 13 32 50 | J1128+5925 | 07 58 28 | 60.9 | 56.4 | -3.5 | | -78.8 | -17 | 406 | No stop |
| 13 33 50 | --- | 07 59 28 | 61.0 | 56.5 | -3.5 | | -79.0 | 43 | 414 | 13 32 51 |
| 13 33 50 | ARP299 | 07 59 28 | 60.8 | 58.2 | -3.5 | | -77.4 | -17 | 414 | No stop |
| 13 37 50 | --- | 08 03 28 | 61.3 | 58.4 | -3.4 | | -78.1 | 223 | 445 | 13 33 51 |
| 13 38 30 | J1128+5925 | 08 04 09 | 61.6 | 56.7 | -3.4 | | -79.8 | 23 | 445 | 13 38 30 |
| 13 39 00 | --- | 08 04 39 | 61.7 | 56.7 | -3.4 | | -79.9 | 30 | 449 | 13 38 31 |

Schedule for TORUN (Code Tr ) Page 4

Arp 299-A at 1 Gb/s

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 9 Jun 2014 Day 160 --- | | | | | | | | | | |
| 13 39 00 | ARP299 | 08 04 39 | 61.5 | 58.5 | -3.4 | | -78.3 | -17 | 449 | No stop |
| 13 43 00 | --- | 08 08 39 | 62.0 | 58.7 | -3.3 | | -78.9 | 223 | 479 | 13 39 01 |
| 13 43 00 | J1128+5925 | 08 08 39 | 62.2 | 56.9 | -3.3 | | -80.6 | -17 | 479 | No stop |
| 13 44 00 | --- | 08 09 39 | 62.3 | 56.9 | -3.3 | | -80.8 | 43 | 487 | 13 43 01 |
| 13 44 00 | ARP299 | 08 09 39 | 62.1 | 58.7 | -3.3 | | -79.1 | -17 | 487 | No stop |
| 13 48 00 | --- | 08 13 40 | 62.6 | 58.9 | -3.3 | | -79.8 | 223 | 518 | 13 44 01 |
| 13 48 00 | J1128+5925 | 08 13 40 | 62.8 | 57.1 | -3.3 | | -81.5 | -17 | 518 | No stop |
| 13 49 00 | --- | 08 14 40 | 62.9 | 57.2 | -3.2 | | -81.7 | 43 | 526 | 13 48 01 |
| 13 49 00 | ARP299 | 08 14 40 | 62.7 | 59.0 | -3.2 | | -80.0 | -17 | 526 | No stop |
| 13 53 00 | --- | 08 18 41 | 63.3 | 59.2 | -3.2 | | -80.6 | 223 | 556 | 13 49 01 |
| 13 53 40 | J1128+5925 | 08 19 21 | 63.5 | 57.3 | -3.2 | | -82.5 | 23 | 556 | 13 53 40 |
| 13 54 10 | --- | 08 19 51 | 63.6 | 57.4 | -3.2 | | -82.6 | 30 | 560 | 13 53 41 |
| 13 54 10 | ARP299 | 08 19 51 | 63.4 | 59.2 | -3.2 | | -80.8 | -17 | 560 | No stop |
| 13 58 10 | --- | 08 23 52 | 63.9 | 59.4 | -3.1 | | -81.5 | 223 | 591 | 13 54 11 |
| 13 58 10 | J1128+5925 | 08 23 52 | 64.1 | 57.5 | -3.1 | | -83.3 | -17 | 591 | No stop |
| 13 59 10 | --- | 08 24 52 | 64.2 | 57.5 | -3.1 | | -83.5 | 43 | 599 | 13 58 11 |
| 13 59 10 | ARP299 | 08 24 52 | 64.1 | 59.5 | -3.1 | | -81.7 | -17 | 599 | No stop |
| 14 03 10 | --- | 08 28 53 | 64.6 | 59.6 | -3.0 | | -82.4 | 223 | 629 | 13 59 11 |
| 14 03 10 | J1128+5925 | 08 28 53 | 64.7 | 57.7 | -3.0 | | -84.3 | -18 | 629 | No stop |
| 14 04 10 | --- | 08 29 53 | 64.8 | 57.7 | -3.0 | | -84.5 | 42 | 637 | 14 03 11 |
| 14 04 10 | ARP299 | 08 29 53 | 64.7 | 59.7 | -3.0 | | -82.6 | -18 | 637 | No stop |
| 14 08 10 | --- | 08 33 53 | 65.2 | 59.8 | -2.9 | | -83.3 | 222 | 668 | 14 04 11 |
| 14 08 50 | J1128+5925 | 08 34 34 | 65.4 | 57.8 | -2.9 | | -85.3 | 22 | 668 | 14 08 50 |
| 14 09 20 | --- | 08 35 04 | 65.5 | 57.8 | -2.9 | | -85.4 | 30 | 672 | 14 08 51 |
| 14 09 20 | ARP299 | 08 35 04 | 65.4 | 59.9 | -2.9 | | -83.5 | -18 | 672 | No stop |
| 14 13 20 | --- | 08 39 04 | 65.9 | 60.0 | -2.8 | | -84.2 | 222 | 703 | 14 09 21 |
| 14 13 20 | J1128+5925 | 08 39 04 | 66.0 | 57.9 | -2.8 | | -86.2 | -18 | 703 | No stop |
| 14 14 20 | --- | 08 40 04 | 66.1 | 57.9 | -2.8 | | -86.4 | 42 | 710 | 14 13 21 |
| 14 14 20 | ARP299 | 08 40 04 | 66.0 | 60.0 | -2.8 | | -84.4 | -18 | 710 | No stop |
| 14 18 20 | --- | 08 44 05 | 66.6 | 60.2 | -2.8 | | -85.2 | 222 | 741 | 14 14 21 |
| 14 18 20 | J1128+5925 | 08 44 05 | 66.7 | 58.0 | -2.7 | | -87.2 | -18 | 741 | No stop |
| 14 19 20 | --- | 08 45 05 | 66.8 | 58.0 | -2.7 | | -87.4 | 42 | 749 | 14 18 21 |

Schedule for TORUN (Code Tr ) Page 5

Arp 299-A at 1 Gb/s

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 9 Jun 2014 Day 160 --- | | | | | | | | | | |
| 14 19 20 | ARP299 | 08 45 05 | 66.7 | 60.2 | -2.7 | | -85.4 | -18 | 749 | No stop |
| 14 23 20 | --- | 08 49 06 | 67.2 | 60.3 | -2.7 | | -86.1 | 222 | 779 | 14 19 21 |
| 14 24 00 | J1128+5925 | 08 49 46 | 67.4 | 58.1 | -2.7 | | -88.4 | 22 | 779 | 14 24 00 |
| 14 24 30 | --- | 08 50 16 | 67.4 | 58.1 | -2.6 | | -88.5 | 30 | 783 | 14 24 01 |
| 14 24 30 | ARP299 | 08 50 16 | 67.4 | 60.3 | -2.7 | | -86.3 | -18 | 783 | No stop |
| 14 28 30 | --- | 08 54 17 | 67.9 | 60.4 | -2.6 | | -87.1 | 222 | 814 | 14 24 31 |
| 14 28 30 | J1128+5925 | 08 54 17 | 68.0 | 58.1 | -2.6 | | -89.3 | -18 | 814 | No stop |
| 14 29 30 | --- | 08 55 17 | 68.1 | 58.1 | -2.6 | | -89.5 | 42 | 822 | 14 28 31 |
| 14 29 30 | ARP299 | 08 55 17 | 68.0 | 60.4 | -2.6 | | -87.3 | -19 | 822 | No stop |
| 14 33 30 | --- | 08 59 18 | 68.5 | 60.5 | -2.5 | | -88.1 | 221 | 853 | 14 29 31 |
| 14 33 30 | J1128+5925 | 08 59 18 | 68.6 | 58.1 | -2.5 | | -90.4 | -19 | 853 | No stop |
| 14 34 30 | --- | 09 00 18 | 68.7 | 58.1 | -2.5 | | -90.6 | 41 | 860 | 14 33 31 |
| 14 34 30 | ARP299 | 09 00 18 | 68.7 | 60.5 | -2.5 | | -88.3 | -19 | 860 | No stop |
| 14 38 30 | --- | 09 04 18 | 69.2 | 60.5 | -2.4 | | -89.2 | 221 | 891 | 14 34 31 |
| 14 39 10 | J1128+5925 | 09 04 59 | 69.3 | 58.1 | -2.4 | | -91.6 | 21 | 891 | 14 39 10 |
| 14 39 40 | --- | 09 05 29 | 69.4 | 58.1 | -2.4 | | -91.8 | 30 | 895 | 14 39 11 |
| 14 39 40 | ARP299 | 09 05 29 | 69.3 | 60.5 | -2.4 | | -89.4 | -19 | 895 | No stop |
| 14 43 40 | --- | 09 09 29 | 69.9 | 60.5 | -2.3 | | -90.3 | 221 | 926 | 14 39 41 |
| 14 43 40 | J1128+5925 | 09 09 29 | 69.9 | 58.0 | -2.3 | | -92.7 | -19 | 926 | No stop |
| 14 44 40 | --- | 09 10 29 | 70.0 | 58.0 | -2.3 | | -92.9 | 41 | 933 | 14 43 41 |
| 14 44 40 | ARP299 | 09 10 29 | 70.0 | 60.5 | -2.3 | | -90.5 | -19 | 933 | No stop |
| 14 48 40 | --- | 09 14 30 | 70.5 | 60.5 | -2.2 | | -91.3 | 221 | 964 | 14 44 41 |
| 14 48 40 | J1128+5925 | 09 14 30 | 70.5 | 57.9 | -2.2 | | -93.9 | -19 | 964 | No stop |
| 14 49 40 | --- | 09 15 30 | 70.7 | 57.9 | -2.2 | | -94.1 | 41 | 972 | 14 48 41 |
| 14 49 40 | ARP299 | 09 15 30 | 70.7 | 60.5 | -2.2 | | -91.6 | -19 | 972 | No stop |
| 14 53 40 | --- | 09 19 31 | 71.2 | 60.4 | -2.2 | | -92.5 | 221 | 1003 | 14 49 41 |
| 14 54 20 | J1128+5925 | 09 20 11 | 71.3 | 57.7 | -2.1 | | -95.2 | 20 | 1003 | 14 54 20 |
| 14 54 50 | --- | 09 20 41 | 71.3 | 57.7 | -2.1 | | -95.4 | 30 | 1006 | 14 54 21 |
| 14 54 50 | ARP299 | 09 20 41 | 71.3 | 60.4 | -2.1 | | -92.8 | -20 | 1006 | No stop |
| 14 58 50 | --- | 09 24 42 | 71.9 | 60.3 | -2.1 | | -93.7 | 220 | 1037 | 14 54 51 |
| 14 58 50 | J1128+5925 | 09 24 42 | 71.8 | 57.5 | -2.1 | | -96.4 | -20 | 1037 | No stop |
| 14 59 50 | --- | 09 25 42 | 71.9 | 57.5 | -2.1 | | -96.6 | 40 | 1045 | 14 58 51 |

Schedule for TORUN (Code Tr ) Page 6

Arp 299-A at 1 Gb/s

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 9 Jun 2014 Day 160 --- | | | | | | | | | | |
| 14 59 50 | ARP299 | 09 25 42 | 72.0 | 60.3 | -2.1 | | -93.9 | -20 | 1045 | No stop |
| 15 03 50 | --- | 09 29 43 | 72.5 | 60.1 | -2.0 | | -94.9 | 220 | 1076 | 14 59 51 |
| 15 03 50 | J1128+5925 | 09 29 43 | 72.5 | 57.3 | -2.0 | | -97.7 | -20 | 1076 | No stop |
| 15 04 50 | --- | 09 30 43 | 72.6 | 57.2 | -2.0 | | -98.0 | 40 | 1083 | 15 03 51 |
| 15 04 50 | ARP299 | 09 30 43 | 72.6 | 60.1 | -2.0 | | -95.2 | -20 | 1083 | No stop |
| 15 08 50 | --- | 09 34 43 | 73.2 | 59.9 | -1.9 | | -96.2 | 220 | 1114 | 15 04 51 |
| 15 09 30 | J1128+5925 | 09 35 24 | 73.2 | 56.9 | -1.9 | | -99.3 | 20 | 1114 | 15 09 30 |
| 15 10 00 | --- | 09 35 54 | 73.2 | 56.9 | -1.9 | | -99.4 | 30 | 1118 | 15 09 31 |
| 15 10 00 | ARP299 | 09 35 54 | 73.3 | 59.9 | -1.9 | | -96.5 | -20 | 1118 | No stop |
| 15 14 00 | --- | 09 39 54 | 73.8 | 59.6 | -1.8 | | -97.6 | 220 | 1149 | 15 10 01 |
| 15 14 00 | J1128+5925 | 09 39 54 | 73.7 | 56.6 | -1.8 | | -100.6 | -21 | 1149 | No stop |
| 15 15 00 | --- | 09 40 54 | 73.9 | 56.5 | -1.8 | | -100.9 | 39 | 1156 | 15 14 01 |
| 15 15 00 | ARP299 | 09 40 54 | 74.0 | 59.6 | -1.8 | | -97.8 | -21 | 1156 | No stop |
| 15 19 00 | --- | 09 44 55 | 74.5 | 59.3 | -1.7 | | -99.0 | 219 | 1187 | 15 15 01 |
| 15 19 00 | J1128+5925 | 09 44 55 | 74.4 | 56.1 | -1.7 | | -102.1 | -21 | 1187 | No stop |
| 15 20 00 | --- | 09 45 55 | 74.5 | 56.0 | -1.7 | | -102.4 | 39 | 1195 | 15 19 01 |
| 15 20 00 | ARP299 | 09 45 55 | 74.6 | 59.2 | -1.7 | | -99.3 | -21 | 1195 | No stop |
| 15 24 00 | --- | 09 49 56 | 75.1 | 58.9 | -1.7 | | -100.4 | 219 | 1226 | 15 20 01 |
| 15 24 40 | J1128+5925 | 09 50 36 | 75.1 | 55.5 | -1.6 | | -103.9 | 19 | 1226 | 15 24 40 |
| 15 25 10 | --- | 09 51 06 | 75.1 | 55.4 | -1.6 | | -104.1 | 30 | 1229 | 15 24 41 |
| 15 25 10 | ARP299 | 09 51 06 | 75.3 | 58.8 | -1.6 | | -100.8 | -21 | 1229 | No stop |
| 15 29 10 | --- | 09 55 07 | 75.8 | 58.3 | -1.6 | | -102.1 | 219 | 1260 | 15 25 11 |
| 15 29 10 | J1128+5925 | 09 55 07 | 75.6 | 54.9 | -1.6 | | -105.4 | -22 | 1260 | No stop |
| 15 30 10 | --- | 09 56 07 | 75.8 | 54.8 | -1.5 | | -105.8 | 38 | 1268 | 15 29 11 |
| 15 30 10 | ARP299 | 09 56 07 | 75.9 | 58.2 | -1.6 | | -102.4 | -22 | 1268 | No stop |
| 15 34 10 | --- | 10 00 08 | 76.4 | 57.7 | -1.5 | | -103.7 | 218 | 1299 | 15 30 11 |
| 15 34 10 | J1128+5925 | 10 00 08 | 76.2 | 54.2 | -1.5 | | -107.2 | -22 | 1299 | No stop |
| 15 35 10 | --- | 10 01 08 | 76.4 | 54.0 | -1.5 | | -107.6 | 38 | 1306 | 15 34 11 |
| 15 35 10 | ARP299 | 10 01 08 | 76.6 | 57.6 | -1.5 | | -104.1 | -22 | 1306 | No stop |
| 15 39 10 | --- | 10 05 08 | 77.1 | 57.0 | -1.4 | | -105.5 | 218 | 1337 | 15 35 11 |
| 15 39 50 | J1128+5925 | 10 05 48 | 76.9 | 53.2 | -1.4 | | -109.4 | 18 | 1337 | 15 39 50 |
| 15 40 20 | --- | 10 06 19 | 77.0 | 53.1 | -1.4 | | -109.6 | 30 | 1341 | 15 39 51 |

Schedule for TORUN (Code Tr ) Page 7

Arp 299-A at 1 Gb/s

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 9 Jun 2014 Day 160 --- | | | | | | | | | | |
| 15 40 20 | ARP299 | 10 06 19 | 77.2 | 56.8 | -1.4 | | -105.9 | -22 | 1341 | No stop |
| 15 44 20 | --- | 10 10 19 | 77.7 | 56.1 | -1.3 | | -107.4 | 218 | 1372 | 15 40 21 |
| 15 44 20 | J1128+5925 | 10 10 19 | 77.5 | 52.3 | -1.3 | | -111.3 | -23 | 1372 | No stop |
| 15 45 20 | --- | 10 11 19 | 77.6 | 52.1 | -1.3 | | -111.7 | 37 | 1379 | 15 44 21 |
| 15 45 20 | ARP299 | 10 11 19 | 77.8 | 56.0 | -1.3 | | -107.8 | -22 | 1379 | No stop |
| 15 49 20 | --- | 10 15 20 | 78.3 | 55.1 | -1.2 | | -109.5 | 218 | 1410 | 15 45 21 |
| 15 49 20 | J1128+5925 | 10 15 20 | 78.1 | 51.2 | -1.2 | | -113.5 | -23 | 1410 | No stop |
| 15 50 20 | --- | 10 16 20 | 78.2 | 50.9 | -1.2 | | -113.9 | 37 | 1418 | 15 49 21 |
| 15 50 20 | ARP299 | 10 16 20 | 78.5 | 54.9 | -1.2 | | -109.9 | -23 | 1418 | No stop |
| 15 54 20 | --- | 10 20 21 | 78.9 | 54.0 | -1.2 | | -111.7 | 217 | 1449 | 15 50 21 |
| 15 55 00 | J1128+5925 | 10 21 01 | 78.7 | 49.6 | -1.1 | | -116.2 | 17 | 1449 | 15 55 00 |
| 15 55 30 | --- | 10 21 31 | 78.8 | 49.5 | -1.1 | | -116.4 | 30 | 1453 | 15 55 01 |
| 15 55 30 | ARP299 | 10 21 31 | 79.1 | 53.7 | -1.1 | | -112.3 | -23 | 1453 | No stop |
| 15 59 30 | --- | 10 25 32 | 79.6 | 52.6 | -1.1 | | -114.2 | 217 | 1483 | 15 55 31 |
| 15 59 30 | J1128+5925 | 10 25 32 | 79.2 | 48.3 | -1.1 | | -118.5 | -24 | 1483 | No stop |
| 16 00 30 | --- | 10 26 32 | 79.3 | 47.9 | -1.0 | | -119.0 | 36 | 1491 | 15 59 31 |
| 16 00 30 | ARP299 | 10 26 32 | 79.7 | 52.3 | -1.0 | | -114.7 | -23 | 1491 | No stop |
| 16 04 30 | --- | 10 30 33 | 80.2 | 50.9 | -1.0 | | -116.9 | 217 | 1522 | 16 00 31 |
| 16 04 30 | J1128+5925 | 10 30 33 | 79.8 | 46.5 | -1.0 | | -121.3 | -24 | 1522 | No stop |
| 16 05 30 | --- | 10 31 33 | 79.9 | 46.1 | -1.0 | | -121.9 | 36 | 1529 | 16 04 31 |
| 16 05 30 | ARP299 | 10 31 33 | 80.3 | 50.6 | -1.0 | | -117.4 | -24 | 1529 | No stop |
| 16 09 30 | --- | 10 35 33 | 80.7 | 49.1 | -0.9 | | -119.8 | 216 | 1560 | 16 05 31 |
| 16 10 10 | J1128+5925 | 10 36 13 | 80.4 | 44.2 | -0.9 | | -124.8 | 16 | 1560 | 16 10 10 |
| 16 10 40 | --- | 10 36 44 | 80.4 | 44.0 | -0.9 | | -125.1 | 30 | 1564 | 16 10 11 |
| 16 10 40 | ARP299 | 10 36 44 | 80.9 | 48.6 | -0.9 | | -120.5 | -24 | 1564 | No stop |
| 16 14 40 | --- | 10 40 44 | 81.3 | 46.8 | -0.8 | | -123.1 | 216 | 1595 | 16 10 41 |
| 16 14 40 | J1128+5925 | 10 40 44 | 80.9 | 42.1 | -0.8 | | -127.8 | -25 | 1595 | No stop |
| 16 15 40 | --- | 10 41 44 | 81.0 | 41.6 | -0.8 | | -128.5 | 35 | 1603 | 16 14 41 |
| 16 15 40 | ARP299 | 10 41 44 | 81.4 | 46.3 | -0.8 | | -123.8 | -24 | 1603 | No stop |
| 16 19 40 | --- | 10 45 45 | 81.9 | 44.2 | -0.7 | | -126.7 | 216 | 1633 | 16 15 41 |

Schedule for TORUN (Code Tr ) Page 8

Arp 299-A at 1 Gb/s

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 9 Jun 2014 Day 160 --- | | | | | | | | | | |
| 16 19 40 | J1128+5925 | 10 45 45 | 81.3 | 39.5 | -0.7 | | -131.5 | -25 | 1633 | No stop |
| 16 20 40 | --- | 10 46 45 | 81.4 | 38.9 | -0.7 | | -132.3 | 35 | 1641 | 16 19 41 |
| 16 20 40 | ARP299 | 10 46 45 | 82.0 | 43.7 | -0.7 | | -127.5 | -24 | 1641 | No stop |
| 16 24 40 | --- | 10 50 46 | 82.4 | 41.3 | -0.6 | | -130.7 | 216 | 1672 | 16 20 41 |
| 16 25 20 | J1128+5925 | 10 51 26 | 81.9 | 36.1 | -0.6 | | -136.1 | 15 | 1672 | 16 25 20 |
| 16 25 50 | --- | 10 51 56 | 81.9 | 35.7 | -0.6 | | -136.5 | 30 | 1676 | 16 25 21 |
| 16 25 50 | ARP299 | 10 51 56 | 82.5 | 40.5 | -0.6 | | -131.7 | -24 | 1676 | No stop |
| 16 29 50 | --- | 10 55 57 | 82.9 | 37.7 | -0.6 | | -135.4 | 216 | 1706 | 16 25 51 |
| 16 29 50 | J1128+5925 | 10 55 57 | 82.3 | 33.0 | -0.6 | | -140.1 | -25 | 1706 | No stop |
| 16 30 50 | --- | 10 56 57 | 82.3 | 32.2 | -0.5 | | -141.1 | 35 | 1714 | 16 29 51 |
| 16 30 50 | ARP299 | 10 56 57 | 83.0 | 36.9 | -0.5 | | -136.4 | -24 | 1714 | No stop |
| 16 34 50 | --- | 11 00 58 | 83.3 | 33.6 | -0.5 | | -140.5 | 216 | 1745 | 16 30 51 |
| 16 34 50 | J1128+5925 | 11 00 58 | 82.6 | 29.1 | -0.5 | | -145.1 | -25 | 1745 | No stop |
| 16 35 50 | --- | 11 01 58 | 82.7 | 28.3 | -0.5 | | -146.1 | 35 | 1753 | 16 34 51 |
| 16 35 50 | ARP299 | 11 01 58 | 83.4 | 32.7 | -0.5 | | -141.6 | -23 | 1753 | No stop |
| 16 39 50 | --- | 11 05 58 | 83.7 | 29.0 | -0.4 | | -146.2 | 217 | 1783 | 16 35 51 |
| 16 40 30 | J1128+5925 | 11 06 38 | 83.0 | 24.2 | -0.4 | | -151.2 | 16 | 1783 | 16 40 30 |
| 16 41 00 | --- | 11 07 09 | 83.1 | 23.7 | -0.4 | | -151.7 | 30 | 1787 | 16 40 31 |
| 16 41 00 | ARP299 | 11 07 09 | 83.8 | 27.8 | -0.4 | | -147.6 | -22 | 1787 | No stop |
| 16 45 00 | --- | 11 11 09 | 84.0 | 23.5 | -0.3 | | -152.7 | 218 | 1818 | 16 41 01 |
| 16 45 00 | J1128+5925 | 11 11 09 | 83.3 | 19.8 | -0.3 | | -156.4 | -23 | 1818 | No stop |
| 16 46 00 | --- | 11 12 09 | 83.3 | 18.8 | -0.3 | | -157.7 | 37 | 1826 | 16 45 01 |
| 16 46 00 | ARP299 | 11 12 09 | 84.1 | 22.4 | -0.3 | | -154.0 | -21 | 1826 | No stop |
| 16 50 00 | --- | 11 16 10 | 84.3 | 17.6 | -0.2 | | -159.6 | 219 | 1856 | 16 46 01 |
| 16 50 00 | J1128+5925 | 11 16 10 | 83.5 | 14.6 | -0.2 | | -162.7 | -21 | 1856 | No stop |
| 16 51 00 | --- | 11 17 10 | 83.5 | 13.6 | -0.2 | | -164.0 | 39 | 1864 | 16 50 01 |
| 16 51 00 | ARP299 | 11 17 10 | 84.3 | 16.4 | -0.2 | | -161.1 | -19 | 1864 | No stop |
| 16 55 00 | --- | 11 21 11 | 84.5 | 11.2 | -0.1 | | -167.1 | 221 | 1895 | 16 51 01 |
| 16 55 40 | J1128+5925 | 11 21 51 | 83.7 | 8.3 | -0.1 | | -170.2 | 21 | 1895 | 16 55 40 |
| 16 56 10 | --- | 11 22 21 | 83.7 | 7.8 | -0.1 | | -170.8 | 30 | 1899 | 16 55 41 |
| 16 56 10 | ARP299 | 11 22 21 | 84.5 | 9.6 | -0.1 | | -168.9 | -16 | 1899 | No stop |
| 17 00 10 | --- | 11 26 22 | 84.6 | 4.2 | -0.1 | | -175.2 | 224 | 1929 | 16 56 11 |

Schedule for TORUN (Code Tr ) Page 9

Arp 299-A at 1 Gb/s

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 9 Jun 2014 Day 160 --- | | | | | | | | | | |
| 17 00 10 | J1128+5925 | 11 26 22 | 83.7 | 3.1 | -0.0 | | -176.3 | -16 | 1929 | No stop |
| 17 01 10 | --- | 11 27 22 | 83.7 | 1.9 | -0.0 | | -177.7 | 44 | 1937 | 17 00 11 |
| 17 01 10 | ARP299 | 11 27 22 | 84.6 | 2.8 | -0.0 | | -176.8 | -16 | 1937 | No stop |
| 17 05 10 | --- | 11 31 23 | 84.6 | -2.8 | 0.0 | | 176.8 | 224 | 1968 | 17 01 11 |
| 17 05 10 | J1128+5925 | 11 31 23 | 83.7 | -2.7 | 0.0 | | 176.8 | -16 | 1968 | No stop |
| 17 06 10 | --- | 11 32 23 | 83.7 | -3.9 | 0.1 | | 175.4 | 44 | 1976 | 17 05 11 |
| 17 06 10 | ARP299 | 11 32 23 | 84.6 | -4.2 | 0.1 | | 175.2 | -16 | 1976 | No stop |
| 17 10 10 | --- | 11 36 23 | 84.5 | -9.7 | 0.1 | | 168.9 | 224 | 2006 | 17 06 11 |
| 17 10 50 | J1128+5925 | 11 37 03 | 83.7 | -9.3 | 0.1 | | 169.0 | 24 | 2006 | 17 10 50 |
| 17 11 20 | --- | 11 37 34 | 83.6 | -9.9 | 0.1 | | 168.4 | 30 | 2010 | 17 10 51 |
| 17 11 20 | ARP299 | 11 37 34 | 84.5 | -11.2 | 0.1 | | 167.1 | -16 | 2010 | No stop |
| 17 15 20 | --- | 11 41 34 | 84.3 | -16.4 | 0.2 | | 161.1 | 224 | 2041 | 17 11 21 |
| 17 15 20 | J1128+5925 | 11 41 34 | 83.5 | -14.3 | 0.2 | | 163.1 | -17 | 2041 | No stop |
| 17 16 20 | --- | 11 42 34 | 83.5 | -15.4 | 0.2 | | 161.8 | 43 | 2049 | 17 15 21 |
| 17 16 20 | ARP299 | 11 42 34 | 84.3 | -17.6 | 0.2 | | 159.6 | -19 | 2049 | No stop |
| 17 20 20 | --- | 11 46 35 | 84.1 | -22.4 | 0.3 | | 154.0 | 221 | 2079 | 17 16 21 |
| 17 20 20 | J1128+5925 | 11 46 35 | 83.3 | -19.5 | 0.3 | | 156.8 | -20 | 2079 | No stop |
| 17 21 20 | --- | 11 47 35 | 83.2 | -20.5 | 0.3 | | 155.6 | 40 | 2087 | 17 20 21 |
| 17 21 20 | ARP299 | 11 47 35 | 84.0 | -23.5 | 0.3 | | 152.7 | -21 | 2087 | No stop |
| 17 25 20 | --- | 11 51 36 | 83.8 | -27.8 | 0.4 | | 147.6 | 219 | 2118 | 17 21 21 |
| 17 26 00 | J1128+5925 | 11 52 16 | 83.0 | -24.9 | 0.4 | | 150.2 | 19 | 2118 | 17 26 00 |
| 17 26 30 | --- | 11 52 46 | 82.9 | -25.4 | 0.4 | | 149.7 | 30 | 2122 | 17 26 01 |
| 17 26 30 | ARP299 | 11 52 46 | 83.7 | -29.0 | 0.4 | | 146.2 | -23 | 2122 | No stop |
| 17 30 30 | --- | 11 56 47 | 83.4 | -32.8 | 0.5 | | 141.6 | 217 | 2153 | 17 26 31 |
| 17 30 30 | J1128+5925 | 11 56 47 | 82.7 | -28.8 | 0.5 | | 145.4 | -22 | 2153 | No stop |
| 17 31 30 | --- | 11 57 47 | 82.6 | -29.7 | 0.5 | | 144.4 | 38 | 2160 | 17 30 31 |
| 17 31 30 | ARP299 | 11 57 47 | 83.3 | -33.6 | 0.5 | | 140.5 | -23 | 2160 | No stop |
| 17 35 30 | --- | 12 01 47 | 83.0 | -36.9 | 0.5 | | 136.4 | 217 | 2191 | 17 31 31 |
| 17 35 30 | J1128+5925 | 12 01 47 | 82.3 | -32.7 | 0.5 | | 140.4 | -23 | 2191 | No stop |
| 17 36 30 | --- | 12 02 48 | 82.2 | -33.5 | 0.6 | | 139.5 | 37 | 2199 | 17 35 31 |
| 17 36 30 | ARP299 | 12 02 48 | 82.9 | -37.7 | 0.6 | | 135.4 | -24 | 2199 | No stop |
| 17 40 30 | --- | 12 06 48 | 82.5 | -40.5 | 0.6 | | 131.7 | 216 | 2229 | 17 36 31 |

Schedule for TORUN (Code Tr ) Page 10

Arp 299-A at 1 Gb/s

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 9 Jun 2014 Day 160 --- | | | | | | | | | | |
| 17 41 10 | J1128+5925 | 12 07 28 | 81.8 | -36.6 | 0.6 | | 135.4 | 17 | 2229 | 17 41 10 |
| 17 41 40 | --- | 12 07 59 | 81.7 | -36.9 | 0.6 | | 135.0 | 30 | 2233 | 17 41 11 |
| 17 41 40 | ARP299 | 12 07 59 | 82.4 | -41.3 | 0.6 | | 130.7 | -24 | 2233 | No stop |
| 17 45 40 | --- | 12 11 59 | 82.0 | -43.7 | 0.7 | | 127.5 | 216 | 2264 | 17 41 41 |
| 17 45 40 | J1128+5925 | 12 11 59 | 81.4 | -39.3 | 0.7 | | 131.7 | -23 | 2264 | No stop |
| 17 46 40 | --- | 12 12 59 | 81.3 | -39.9 | 0.7 | | 131.0 | 37 | 2272 | 17 45 41 |
| 17 46 40 | ARP299 | 12 12 59 | 81.9 | -44.3 | 0.7 | | 126.7 | -24 | 2272 | No stop |
| 17 50 40 | --- | 12 17 00 | 81.4 | -46.3 | 0.8 | | 123.8 | 216 | 2303 | 17 46 41 |
| 17 50 40 | J1128+5925 | 12 17 00 | 80.9 | -42.0 | 0.8 | | 128.0 | -23 | 2303 | No stop |
| 17 51 40 | --- | 12 18 00 | 80.8 | -42.5 | 0.8 | | 127.3 | 37 | 2310 | 17 50 41 |
| 17 51 40 | ARP299 | 12 18 00 | 81.3 | -46.8 | 0.8 | | 123.1 | -24 | 2310 | No stop |
| 17 55 40 | --- | 12 22 01 | 80.9 | -48.6 | 0.9 | | 120.5 | 216 | 2341 | 17 51 41 |
| 17 56 20 | J1128+5925 | 12 22 41 | 80.3 | -44.6 | 0.9 | | 124.2 | 17 | 2341 | 17 56 20 |
| 17 56 50 | --- | 12 23 11 | 80.2 | -44.8 | 0.9 | | 123.9 | 30 | 2345 | 17 56 21 |
| 17 56 50 | ARP299 | 12 23 11 | 80.7 | -49.1 | 0.9 | | 119.8 | -24 | 2345 | No stop |
| 18 00 50 | --- | 12 27 12 | 80.3 | -50.6 | 1.0 | | 117.4 | 216 | 2376 | 17 56 51 |
| 18 00 50 | J1128+5925 | 12 27 12 | 79.8 | -46.4 | 1.0 | | 121.5 | -23 | 2376 | No stop |
| 18 01 50 | --- | 12 28 12 | 79.7 | -46.8 | 1.0 | | 120.9 | 37 | 2383 | 18 00 51 |
| 18 01 50 | ARP299 | 12 28 12 | 80.2 | -51.0 | 1.0 | | 116.9 | -24 | 2383 | No stop |
| 18 05 50 | --- | 12 32 12 | 79.7 | -52.3 | 1.0 | | 114.7 | 216 | 2414 | 18 01 51 |
| 18 05 50 | J1128+5925 | 12 32 12 | 79.3 | -48.2 | 1.1 | | 118.7 | -23 | 2414 | No stop |
| 18 06 50 | --- | 12 33 13 | 79.2 | -48.5 | 1.1 | | 118.1 | 37 | 2422 | 18 05 51 |
| 18 06 50 | ARP299 | 12 33 13 | 79.6 | -52.6 | 1.1 | | 114.2 | -23 | 2422 | No stop |
| 18 10 50 | --- | 12 37 13 | 79.1 | -53.7 | 1.1 | | 112.3 | 217 | 2453 | 18 06 51 |
| 18 11 30 | J1128+5925 | 12 37 53 | 78.6 | -49.9 | 1.1 | | 115.7 | 17 | 2453 | 18 11 30 |
| 18 12 00 | --- | 12 38 23 | 78.6 | -50.0 | 1.2 | | 115.5 | 30 | 2456 | 18 11 31 |
| 18 12 00 | ARP299 | 12 38 23 | 78.9 | -54.0 | 1.2 | | 111.7 | -23 | 2456 | No stop |
| 18 16 00 | --- | 12 42 24 | 78.5 | -54.9 | 1.2 | | 109.9 | 217 | 2487 | 18 12 01 |
| 18 16 00 | J1128+5925 | 12 42 24 | 78.1 | -51.1 | 1.2 | | 113.6 | -22 | 2487 | No stop |
| 18 17 00 | --- | 12 43 24 | 78.0 | -51.3 | 1.2 | | 113.2 | 38 | 2495 | 18 16 01 |
| 18 17 00 | ARP299 | 12 43 24 | 78.3 | -55.1 | 1.2 | | 109.5 | -23 | 2495 | No stop |
| 18 21 00 | --- | 12 47 25 | 77.8 | -56.0 | 1.3 | | 107.8 | 217 | 2526 | 18 17 01 |

```
Schedule for TORUN     (Code Tr )                                  Page  11
               Arp 299-A at 1 Gb/s
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source              Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Mon   9 Jun 2014   Day 160 ---

18 21 40  J1128+5925   12 48 05  77.4 -52.4  1.3     111.1    18     2526   18 21 40
18 22 10  ---          12 48 35  77.4 -52.5  1.3     110.9    30     2529   18 21 41

18 22 10  ARP299       12 48 35  77.7 -56.2  1.3     107.4   -22     2529   No stop
18 25 00  ---          12 51 26  77.3 -56.7  1.4     106.3   148     2551   18 22 11

18 25 00  J1128+5925   12 51 26  77.0 -53.1  1.4     109.7   -22     2551   No stop
18 26 00  ---          12 52 26  76.9 -53.2  1.4     109.3    38     2559   18 25 01

18 26 00  ARP299       12 52 26  77.2 -56.8  1.4     105.9   -22     2559   No stop
18 29 00  ---          12 55 26  76.8 -57.3  1.4     104.8   158     2582   18 26 01

18 29 00  J1128+5925   12 55 26  76.5 -53.8  1.4     108.2   -22     2582   No stop
18 30 00  ---          12 56 26  76.4 -53.9  1.5     107.8    38     2590   18 29 01




SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess214.C1024
 --- WARNING ---  This group does not match an entry in the frequency catalog.
                  This might be ok because the catalog is not complete.
                  But be very careful to be sure that the setup is correct.

   Setup group:   11         Station: TORUN            Total bit rate:  1024
   Format: MARK5B            Bits per sample: 2        Sample rate: 32.000
   Number of channels: 16    DBE type:                 Speedup factor:   1.00

   Disk used to record data.

   1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
             4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
   Net SB=         L         L         U         U         L         L         U         U
                   L         L         U         U         L         L         U         U
   IF SB =         U         U         U         U         U         U         U         U
                   U         U         U         U         U         U         U         U
   Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                 RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
   BBC   =         1         5         1         5         2         6         2         6
                   3         7         3         7         4         8         4         8
   BBC SB=         L         L         U         U         L         L         U         U
                   L         L         U         U         L         L         U         U
   IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                  A1        B1        A1        B1        A1        B1        A1        B1
```

The following frequency sets based on these setups were used.

```
 Frequency Set:   6  Setup file default.  Used with PCAL = off
 LO sum=   4942.49  4942.49  4942.49  4942.49  4974.49  4974.49  4974.49  4974.49
           5006.49  5006.49  5006.49  5006.49  5038.49  5038.49  5038.49  5038.49
 BBC fr=    742.49   742.49   742.49   742.49   774.49   774.49   774.49   774.49
            806.49   806.49   806.49   806.49   838.49   838.49   838.49   838.49
 Bandwd=     16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
             16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
  Matching frequency sets:   6

 Track assignments are:
  track1=   2,  4,  6,  8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
  barrel=roll_off
```

POSITIONS OF SOURCES USED IN RECORDING SCANS

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * ARP299 | 11 25 44.174219 | * 11 28 33.622010 | 11 29 21.917474 | 0.00 |
| | 58 50 18.17319 | * 58 33 46.61000 | 58 29 12.29152 | 0.00 |
| * J1128+5925 | 11 25 23.181652 | * 11 28 13.340676 | 11 29 01.799025 | 0.00 |
| | 59 41 46.14397 | * 59 25 14.79866 | 59 20 40.70321 | 0.00 |
| J0927+3902 | 09 23 55.319217 | * 09 27 03.013938 | 09 27 56.401330 | 0.13 |
| * 4C39.25 | 39 15 23.56637 | * 39 02 20.85177 | 38 58 35.61012 | 0.10 |

EFFECT OF SOLAR CORONA

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) |
|---|---|
| ARP299 | 72.9 |
| J1128+5925 | 72.6 |
| 4C39.25 | 56.2 |

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
that the Sun will cause amplitude reductions on the  longest VLBA baselines
at a solar distance of 60deg F^(-0.6) where F is in GHz.
For common VLBI bands, this is:

| | |
|---|---|
| 327 MHz | 117. deg |
| 610 MHz | 81. deg |
| 1.6 GHz | 45. deg |
| 2.3 GHz | 36. deg |
| 5.0 GHz | 23. deg |
| 8.4 GHz | 17. deg |
| 15.0 GHz | 12. deg |
| 22.0 GHz | 9. deg |
| 43.0 GHz | 6. deg |

# ep088ftr

## LIRGI - Source group 1 - Run d

PI: *Miguel A. Perez-Torres*

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Phone: +34-958230644 EMAIL: torres@iaa.es
Fax: +34-958814530 Phone during observation: +34-665252538

Observing mode: 1024 Mbps
Notes: Phase-ref of EVN LIRGI sources. Re-obs of first 6cm observing epoch of NGC0695, VV250a, UGC08058, IRASF17132, NGC6670b and NGC7674

Schedule for TORUN (Code Tr ) Page 2
LIRGI - Source group 1 - Run d
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop Source | | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| Next scan frequencies: | | 4942.49 | 4942.49 | 4942.49 | 4942.49 | 4974.49 | 4974.49 | 4974.49 | 4974.49 | |
| | | 5006.49 | 5006.49 | 5006.49 | 5006.49 | 5038.49 | 5038.49 | 5038.49 | 5038.49 | |
| Next BBC frequencies: | | 742.49 | 742.49 | 742.49 | 742.49 | 774.49 | 774.49 | 774.49 | 774.49 | |
| | | 806.49 | 806.49 | 806.49 | 806.49 | 838.49 | 838.49 | 838.49 | 838.49 | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | |
| | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | |
| 03 00 00 | 3C454.3 | 21 27 50 | 49.4 | 146.9 | -1.4 | | -20.0 | 0 | 0 | 03 00 00 |
| 03 03 34 | --- | 21 31 25 | 49.7 | 148.2 | -1.4 | | -19.3 | 214 | 27 | 03 00 01 |
| 03 03 34 | 3C454.3 | 21 31 25 | 49.7 | 148.2 | -1.4 | | -19.3 | -5 | 27 | No stop |
| 03 07 12 | --- | 21 35 03 | 50.0 | 149.5 | -1.3 | | -18.5 | 213 | 55 | 03 03 35 |
| 03 07 12 | J1740+5211 | 21 35 03 | 55.5 | 292.7 | 3.9 | | 64.7 | -303 | 55 | No stop |
| 03 14 52 | --- | 21 42 45 | 54.4 | 293.6 | 4.0 | | 63.9 | 157 | 114 | 03 07 13 |
| 03 15 32 | IRASF17132 | 21 43 25 | 51.2 | 298.1 | 4.5 | | 62.1 | 14 | 114 | 03 15 32 |
| 03 19 12 | --- | 21 47 05 | 50.7 | 298.5 | 4.5 | | 61.7 | 220 | 143 | 03 15 33 |
| 03 19 12 | J1740+5211 | 21 47 05 | 53.8 | 294.1 | 4.1 | | 63.4 | -25 | 143 | No stop |
| 03 20 22 | --- | 21 48 16 | 53.7 | 294.2 | 4.1 | | 63.3 | 45 | 152 | 03 19 13 |
| 03 21 02 | IRASF17132 | 21 48 56 | 50.5 | 298.7 | 4.6 | | 61.5 | 14 | 152 | 03 21 02 |
| 03 24 42 | --- | 21 52 36 | 50.0 | 299.1 | 4.6 | | 61.1 | 220 | 180 | 03 21 03 |
| 03 24 42 | J1740+5211 | 21 52 36 | 53.1 | 294.7 | 4.2 | | 62.9 | -25 | 180 | No stop |
| 03 25 52 | --- | 21 53 46 | 52.9 | 294.8 | 4.2 | | 62.7 | 45 | 189 | 03 24 43 |
| 03 25 52 | IRASF17132 | 21 53 46 | 49.9 | 299.2 | 4.7 | | 60.9 | -26 | 189 | No stop |
| 03 29 32 | --- | 21 57 27 | 49.4 | 299.6 | 4.7 | | 60.5 | 194 | 217 | 03 25 53 |
| 03 29 32 | J1740+5211 | 21 57 27 | 52.4 | 295.3 | 4.3 | | 62.3 | -25 | 217 | No stop |
| 03 30 42 | --- | 21 58 37 | 52.3 | 295.4 | 4.3 | | 62.2 | 45 | 226 | 03 29 33 |

Schedule for TORUN (Code Tr ) Page 3

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 03 30 42 | IRASF17132 | 21 58 37 | 49.2 | 299.8 | 4.7 | | 60.4 | -25 | 226 | No stop |
| 03 34 22 | --- | 22 02 18 | 48.7 | 300.2 | 4.8 | | 60.0 | 195 | 254 | 03 30 43 |
| 03 34 22 | J1740+5211 | 22 02 18 | 51.8 | 295.8 | 4.4 | | 61.8 | -25 | 254 | No stop |
| 03 35 32 | --- | 22 03 28 | 51.6 | 296.0 | 4.4 | | 61.7 | 45 | 263 | 03 34 23 |
| 03 36 12 | IRASF17132 | 22 04 08 | 48.5 | 300.4 | 4.8 | | 59.7 | 15 | 263 | 03 36 12 |
| 03 39 52 | --- | 22 07 49 | 48.0 | 300.8 | 4.9 | | 59.3 | 220 | 291 | 03 36 13 |
| 03 39 52 | J1740+5211 | 22 07 49 | 51.0 | 296.5 | 4.4 | | 61.2 | -25 | 291 | No stop |
| 03 41 02 | --- | 22 08 59 | 50.9 | 296.6 | 4.5 | | 61.1 | 45 | 300 | 03 39 53 |
| 03 41 02 | IRASF17132 | 22 08 59 | 47.9 | 301.0 | 4.9 | | 59.2 | -25 | 300 | No stop |
| 03 44 42 | --- | 22 12 40 | 47.4 | 301.4 | 5.0 | | 58.8 | 195 | 328 | 03 41 03 |
| 03 44 42 | J1740+5211 | 22 12 40 | 50.4 | 297.1 | 4.5 | | 60.7 | -25 | 328 | No stop |
| 03 45 52 | --- | 22 13 50 | 50.2 | 297.2 | 4.5 | | 60.6 | 45 | 337 | 03 44 43 |
| 03 45 52 | IRASF17132 | 22 13 50 | 47.3 | 301.5 | 5.0 | | 58.6 | -25 | 337 | No stop |
| 03 49 32 | --- | 22 17 30 | 46.8 | 301.9 | 5.0 | | 58.2 | 195 | 366 | 03 45 53 |
| 03 49 32 | J1740+5211 | 22 17 30 | 49.7 | 297.6 | 4.6 | | 60.2 | -25 | 366 | No stop |
| 03 50 42 | --- | 22 18 41 | 49.6 | 297.8 | 4.6 | | 60.1 | 45 | 375 | 03 49 33 |
| 03 51 22 | IRASF17132 | 22 19 21 | 46.6 | 302.2 | 5.1 | | 58.0 | 15 | 375 | 03 51 22 |
| 03 55 02 | --- | 22 23 01 | 46.1 | 302.6 | 5.1 | | 57.6 | 220 | 403 | 03 51 23 |
| 03 55 02 | J1740+5211 | 22 23 01 | 49.0 | 298.3 | 4.7 | | 59.6 | -25 | 403 | No stop |
| 03 56 12 | --- | 22 24 11 | 48.8 | 298.4 | 4.7 | | 59.5 | 45 | 412 | 03 55 03 |
| 03 56 12 | IRASF17132 | 22 24 11 | 45.9 | 302.7 | 5.2 | | 57.4 | -25 | 412 | No stop |
| 03 59 52 | --- | 22 27 52 | 45.5 | 303.1 | 5.2 | | 57.0 | 195 | 440 | 03 56 13 |
| 03 59 52 | J1740+5211 | 22 27 52 | 48.3 | 298.8 | 4.8 | | 59.1 | -24 | 440 | No stop |
| 04 01 02 | --- | 22 29 02 | 48.2 | 299.0 | 4.8 | | 59.0 | 46 | 449 | 03 59 53 |
| 04 01 02 | IRASF17132 | 22 29 02 | 45.3 | 303.3 | 5.2 | | 56.9 | -25 | 449 | No stop |
| 04 04 42 | --- | 22 32 43 | 44.9 | 303.7 | 5.3 | | 56.4 | 195 | 477 | 04 01 03 |
| 04 04 42 | J1740+5211 | 22 32 43 | 47.7 | 299.4 | 4.9 | | 58.6 | -24 | 477 | No stop |
| 04 05 52 | --- | 22 33 53 | 47.6 | 299.6 | 4.9 | | 58.4 | 46 | 486 | 04 04 43 |
| 04 06 32 | IRASF17132 | 22 34 33 | 44.6 | 303.9 | 5.3 | | 56.2 | 15 | 486 | 04 06 32 |
| 04 10 12 | --- | 22 38 14 | 44.2 | 304.4 | 5.4 | | 55.8 | 220 | 514 | 04 06 33 |
| 04 10 12 | J1740+5211 | 22 38 14 | 47.0 | 300.1 | 5.0 | | 58.0 | -24 | 514 | No stop |
| 04 11 22 | --- | 22 39 24 | 46.8 | 300.2 | 5.0 | | 57.8 | 46 | 523 | 04 10 13 |

Schedule for TORUN (Code Tr ) Page 4

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 04 11 22 | IRASF17132 | 22 39 24 | 44.0 | 304.5 | 5.4 | | 55.6 | -25 | 523 | No stop |
| 04 15 02 | --- | 22 43 05 | 43.6 | 304.9 | 5.5 | | 55.2 | 195 | 552 | 04 11 23 |
| 04 15 02 | J1740+5211 | 22 43 05 | 46.4 | 300.7 | 5.0 | | 57.4 | -24 | 552 | No stop |
| 04 16 12 | --- | 22 44 15 | 46.2 | 300.8 | 5.1 | | 57.3 | 46 | 561 | 04 15 03 |
| 04 16 12 | IRASF17132 | 22 44 15 | 43.4 | 305.1 | 5.5 | | 55.1 | -24 | 561 | No stop |
| 04 19 52 | --- | 22 47 55 | 43.0 | 305.5 | 5.6 | | 54.6 | 196 | 589 | 04 16 13 |
| 04 19 52 | J1740+5211 | 22 47 55 | 45.7 | 301.2 | 5.1 | | 56.9 | -24 | 589 | No stop |
| 04 21 02 | --- | 22 49 06 | 45.6 | 301.4 | 5.1 | | 56.7 | 46 | 598 | 04 19 53 |
| 04 21 42 | IRASF17132 | 22 49 46 | 42.8 | 305.7 | 5.6 | | 54.4 | 16 | 598 | 04 21 42 |
| 04 25 22 | --- | 22 53 26 | 42.3 | 306.2 | 5.6 | | 54.0 | 220 | 626 | 04 21 43 |
| 04 25 22 | J1740+5211 | 22 53 26 | 45.0 | 301.9 | 5.2 | | 56.3 | -24 | 626 | No stop |
| 04 26 32 | --- | 22 54 36 | 44.9 | 302.0 | 5.2 | | 56.1 | 46 | 635 | 04 25 23 |
| 04 26 32 | IRASF17132 | 22 54 36 | 42.2 | 306.3 | 5.7 | | 53.8 | -24 | 635 | No stop |
| 04 30 12 | --- | 22 58 17 | 41.7 | 306.7 | 5.7 | | 53.4 | 196 | 663 | 04 26 33 |
| 04 30 12 | J1740+5211 | 22 58 17 | 44.4 | 302.5 | 5.3 | | 55.7 | -24 | 663 | No stop |
| 04 31 22 | --- | 22 59 27 | 44.3 | 302.6 | 5.3 | | 55.6 | 46 | 672 | 04 30 13 |
| 04 31 22 | IRASF17132 | 22 59 27 | 41.6 | 306.9 | 5.7 | | 53.2 | -24 | 672 | No stop |
| 04 35 02 | --- | 23 03 08 | 41.2 | 307.3 | 5.8 | | 52.8 | 196 | 700 | 04 31 23 |
| 04 35 02 | J1740+5211 | 23 03 08 | 43.8 | 303.1 | 5.4 | | 55.2 | -24 | 700 | No stop |
| 04 36 12 | --- | 23 04 18 | 43.7 | 303.2 | 5.4 | | 55.0 | 46 | 709 | 04 35 03 |
| 04 36 52 | IRASF17132 | 23 04 58 | 40.9 | 307.5 | 5.8 | | 52.6 | 16 | 709 | 04 36 52 |
| 04 40 32 | --- | 23 08 39 | 40.5 | 308.0 | 5.9 | | 52.1 | 220 | 737 | 04 36 53 |
| 04 40 32 | J1740+5211 | 23 08 39 | 43.1 | 303.7 | 5.5 | | 54.5 | -24 | 737 | No stop |
| 04 41 42 | --- | 23 09 49 | 43.0 | 303.9 | 5.5 | | 54.4 | 46 | 746 | 04 40 33 |
| 04 41 42 | IRASF17132 | 23 09 49 | 40.4 | 308.1 | 5.9 | | 52.0 | -24 | 746 | No stop |
| 04 45 22 | --- | 23 13 30 | 39.9 | 308.6 | 6.0 | | 51.5 | 196 | 775 | 04 41 43 |
| 04 45 22 | J1740+5211 | 23 13 30 | 42.5 | 304.3 | 5.5 | | 54.0 | -23 | 775 | No stop |
| 04 46 32 | --- | 23 14 40 | 42.4 | 304.5 | 5.6 | | 53.8 | 47 | 784 | 04 45 23 |
| 04 46 32 | IRASF17132 | 23 14 40 | 39.8 | 308.7 | 6.0 | | 51.4 | -24 | 784 | No stop |
| 04 50 12 | --- | 23 18 20 | 39.4 | 309.2 | 6.1 | | 50.9 | 196 | 812 | 04 46 33 |
| 04 50 12 | J1740+5211 | 23 18 20 | 41.9 | 304.9 | 5.6 | | 53.4 | -23 | 812 | No stop |
| 04 51 22 | --- | 23 19 31 | 41.8 | 305.1 | 5.6 | | 53.3 | 47 | 821 | 04 50 13 |

Schedule for TORUN (Code Tr ) Page 5

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 04 52 02 | IRASF17132 | 23 20 11 | 39.1 | 309.4 | 6.1 | | 50.7 | 16 | 821 | 04 52 02 |
| 04 55 42 | --- | 23 23 51 | 38.7 | 309.8 | 6.2 | | 50.3 | 220 | 849 | 04 52 03 |
| 04 55 42 | J1740+5211 | 23 23 51 | 41.2 | 305.6 | 5.7 | | 52.8 | -23 | 849 | No stop |
| 04 56 52 | --- | 23 25 01 | 41.1 | 305.8 | 5.7 | | 52.6 | 47 | 858 | 04 55 43 |
| 04 56 52 | IRASF17132 | 23 25 01 | 38.6 | 310.0 | 6.2 | | 50.1 | -23 | 858 | No stop |
| 05 00 32 | --- | 23 28 42 | 38.2 | 310.4 | 6.2 | | 49.7 | 197 | 886 | 04 56 53 |
| 05 00 32 | J1740+5211 | 23 28 42 | 40.7 | 306.2 | 5.8 | | 52.2 | -23 | 886 | No stop |
| 05 01 42 | --- | 23 29 52 | 40.5 | 306.4 | 5.8 | | 52.1 | 47 | 895 | 05 00 33 |
| 05 01 42 | IRASF17132 | 23 29 52 | 38.0 | 310.6 | 6.3 | | 49.5 | -23 | 895 | No stop |
| 05 05 22 | --- | 23 33 33 | 37.6 | 311.0 | 6.3 | | 49.1 | 197 | 923 | 05 01 43 |
| 05 05 22 | J1740+5211 | 23 33 33 | 40.1 | 306.8 | 5.9 | | 51.7 | -23 | 923 | No stop |
| 05 06 32 | --- | 23 34 43 | 39.9 | 307.0 | 5.9 | | 51.5 | 47 | 932 | 05 05 23 |
| 05 07 12 | IRASF17132 | 23 35 23 | 37.4 | 311.3 | 6.3 | | 48.8 | 17 | 932 | 05 07 12 |
| 05 10 52 | --- | 23 39 04 | 37.0 | 311.7 | 6.4 | | 48.4 | 220 | 961 | 05 07 13 |
| 05 10 52 | J1740+5211 | 23 39 04 | 39.4 | 307.5 | 6.0 | | 51.0 | -23 | 961 | No stop |
| 05 12 02 | --- | 23 40 14 | 39.3 | 307.6 | 6.0 | | 50.9 | 47 | 969 | 05 10 53 |
| 05 12 02 | J1824+5651 | 23 40 14 | 47.1 | 308.0 | 5.3 | | 60.0 | -43 | 969 | No stop |
| 05 13 32 | --- | 23 41 44 | 46.9 | 308.1 | 5.3 | | 59.8 | 47 | 981 | 05 12 03 |
| 05 13 32 | NGC6670B | 23 41 44 | 49.4 | 311.3 | 5.1 | | 64.1 | -23 | 981 | No stop |
| 05 17 20 | --- | 23 45 33 | 49.0 | 311.6 | 5.2 | | 63.5 | 205 | 1010 | 05 13 33 |
| 05 17 20 | J1824+5651 | 23 45 33 | 46.5 | 308.5 | 5.4 | | 59.2 | -24 | 1010 | No stop |
| 05 18 40 | --- | 23 46 53 | 46.3 | 308.7 | 5.4 | | 59.1 | 56 | 1021 | 05 17 21 |
| 05 19 20 | NGC6670B | 23 47 33 | 48.8 | 311.8 | 5.2 | | 63.2 | 17 | 1021 | 05 19 20 |
| 05 23 08 | --- | 23 51 22 | 48.4 | 312.1 | 5.3 | | 62.6 | 228 | 1050 | 05 19 21 |
| 05 23 08 | J1824+5651 | 23 51 22 | 45.8 | 309.1 | 5.4 | | 58.4 | -24 | 1050 | No stop |
| 05 24 28 | --- | 23 52 42 | 45.6 | 309.3 | 5.5 | | 58.3 | 56 | 1060 | 05 23 09 |
| 05 24 28 | NGC6670B | 23 52 42 | 48.2 | 312.2 | 5.3 | | 62.4 | -23 | 1060 | No stop |
| 05 28 16 | --- | 23 56 31 | 47.8 | 312.6 | 5.4 | | 61.9 | 205 | 1089 | 05 24 29 |
| 05 28 16 | J1824+5651 | 23 56 31 | 45.2 | 309.7 | 5.5 | | 57.7 | -24 | 1089 | No stop |
| 05 29 36 | --- | 23 57 51 | 45.0 | 309.8 | 5.6 | | 57.6 | 56 | 1099 | 05 28 17 |
| 05 29 36 | NGC6670B | 23 57 51 | 47.6 | 312.7 | 5.4 | | 61.7 | -24 | 1099 | No stop |
| 05 33 24 | --- | 00 01 39 | 47.2 | 313.0 | 5.5 | | 61.1 | 204 | 1129 | 05 29 37 |

Schedule for TORUN (Code Tr ) Page 6

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Stop LST | Start EL | Stop EL | Start AZ | Stop AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | | | | |
| 05 33 24 | J1824+5651 | 00 01 39 | | 44.6 | | 310.2 | | 5.6 | | 57.0 | -24 | 1129 | No stop |
| 05 34 44 | --- | | 00 03 00 | | 44.4 | | 310.3 | | 5.6 | 56.9 | 56 | 1139 | 05 33 25 |
| 05 35 24 | NGC6670B | 00 03 40 | | 47.0 | | 313.2 | | 5.5 | | 60.8 | 16 | 1139 | 05 35 24 |
| 05 39 12 | --- | | 00 07 28 | | 46.6 | | 313.5 | | 5.6 | 60.2 | 228 | 1168 | 05 35 25 |
| 05 39 12 | J1824+5651 | 00 07 28 | | 43.9 | | 310.8 | | 5.7 | | 56.3 | -24 | 1168 | No stop |
| 05 40 32 | --- | | 00 08 49 | | 43.8 | | 310.9 | | 5.7 | 56.1 | 56 | 1178 | 05 39 13 |
| 05 40 32 | NGC6670B | 00 08 49 | | 46.4 | | 313.7 | | 5.6 | | 60.0 | -24 | 1178 | No stop |
| 05 44 20 | --- | | 00 12 37 | | 46.0 | | 314.0 | | 5.6 | 59.4 | 204 | 1208 | 05 40 33 |
| 05 44 20 | J1824+5651 | 00 12 37 | | 43.3 | | 311.3 | | 5.8 | | 55.6 | -24 | 1208 | No stop |
| 05 45 40 | --- | | 00 13 57 | | 43.2 | | 311.5 | | 5.8 | 55.4 | 56 | 1218 | 05 44 21 |
| 05 45 40 | NGC6670B | 00 13 57 | | 45.9 | | 314.1 | | 5.7 | | 59.2 | -24 | 1218 | No stop |
| 05 49 28 | --- | | 00 17 46 | | 45.5 | | 314.5 | | 5.7 | 58.7 | 204 | 1247 | 05 45 41 |
| 05 49 28 | J1824+5651 | 00 17 46 | | 42.8 | | 311.9 | | 5.9 | | 54.9 | -24 | 1247 | No stop |
| 05 50 48 | --- | | 00 19 06 | | 42.6 | | 312.0 | | 5.9 | 54.7 | 56 | 1257 | 05 49 29 |
| 05 51 28 | NGC6670B | 00 19 46 | | 45.3 | | 314.7 | | 5.8 | | 58.4 | 16 | 1257 | 05 51 28 |
| 05 55 16 | --- | | 00 23 35 | | 44.8 | | 315.0 | | 5.8 | 57.8 | 228 | 1287 | 05 51 29 |
| 05 55 16 | J1824+5651 | 00 23 35 | | 42.1 | | 312.5 | | 6.0 | | 54.1 | -24 | 1287 | No stop |
| 05 56 36 | --- | | 00 24 55 | | 42.0 | | 312.7 | | 6.0 | 53.9 | 56 | 1297 | 05 55 17 |
| 05 56 36 | NGC6670B | 00 24 55 | | 44.7 | | 315.2 | | 5.9 | | 57.6 | -24 | 1297 | No stop |
| 06 00 24 | --- | | 00 28 44 | | 44.3 | | 315.5 | | 5.9 | 57.0 | 204 | 1326 | 05 56 37 |
| 06 00 24 | J1824+5651 | 00 28 44 | | 41.6 | | 313.1 | | 6.1 | | 53.4 | -24 | 1326 | No stop |
| 06 01 44 | --- | | 00 30 04 | | 41.4 | | 313.2 | | 6.1 | 53.2 | 56 | 1336 | 06 00 25 |
| 06 01 44 | NGC6670B | 00 30 04 | | 44.2 | | 315.7 | | 5.9 | | 56.8 | -24 | 1336 | No stop |
| 06 05 32 | --- | | 00 33 53 | | 43.8 | | 316.0 | | 6.0 | 56.3 | 204 | 1366 | 06 01 45 |
| 06 05 32 | J1824+5651 | 00 33 53 | | 41.0 | | 313.6 | | 6.2 | | 52.6 | -24 | 1366 | No stop |
| 06 06 52 | --- | | 00 35 13 | | 40.9 | | 313.8 | | 6.2 | 52.5 | 56 | 1376 | 06 05 33 |
| 06 07 32 | NGC6670B | 00 35 53 | | 43.6 | | 316.2 | | 6.0 | | 56.0 | 16 | 1376 | 06 07 32 |
| 06 11 20 | --- | | 00 39 42 | | 43.2 | | 316.6 | | 6.1 | 55.4 | 228 | 1405 | 06 07 33 |
| 06 11 20 | J1824+5651 | 00 39 42 | | 40.4 | | 314.3 | | 6.3 | | 51.8 | -25 | 1405 | No stop |
| 06 12 40 | --- | | 00 41 02 | | 40.2 | | 314.4 | | 6.3 | 51.7 | 55 | 1415 | 06 11 21 |
| 06 12 40 | NGC6670B | 00 41 02 | | 43.0 | | 316.7 | | 6.1 | | 55.2 | -24 | 1415 | No stop |
| 06 16 28 | --- | | 00 44 51 | | 42.6 | | 317.1 | | 6.2 | 54.6 | 204 | 1445 | 06 12 41 |

Schedule for TORUN (Code Tr ) Page 7

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | Start / Stop EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 06 16 28 | J1824+5651 | 00 44 51 | 39.8 | 314.9 | 6.3 | | 51.1 | -25 | 1445 | No stop |
| 06 17 48 | --- | 00 46 11 | 39.7 | 315.0 | 6.4 | | 51.0 | 55 | 1455 | 06 16 29 |
| 06 17 48 | NGC6670B | 00 46 11 | 42.5 | 317.2 | 6.2 | | 54.4 | -24 | 1455 | No stop |
| 06 21 36 | --- | 00 49 59 | 42.1 | 317.6 | 6.3 | | 53.8 | 204 | 1484 | 06 17 49 |
| 06 21 36 | J1824+5651 | 00 49 59 | 39.3 | 315.4 | 6.4 | | 50.4 | -25 | 1484 | No stop |
| 06 22 56 | --- | 00 51 20 | 39.1 | 315.6 | 6.4 | | 50.2 | 55 | 1494 | 06 21 37 |
| 06 23 36 | NGC6670B | 00 52 00 | 41.9 | 317.8 | 6.3 | | 53.5 | 16 | 1494 | 06 23 36 |
| 06 27 24 | --- | 00 55 48 | 41.5 | 318.2 | 6.4 | | 53.0 | 228 | 1524 | 06 23 37 |
| 06 27 24 | J1824+5651 | 00 55 48 | 38.7 | 316.1 | 6.5 | | 49.6 | -25 | 1524 | No stop |
| 06 28 44 | --- | 00 57 09 | 38.5 | 316.2 | 6.5 | | 49.4 | 55 | 1534 | 06 27 25 |
| 06 28 44 | NGC6670B | 00 57 09 | 41.4 | 318.3 | 6.4 | | 52.8 | -25 | 1534 | No stop |
| 06 32 32 | --- | 01 00 57 | 41.0 | 318.7 | 6.5 | | 52.2 | 203 | 1563 | 06 28 45 |
| 06 32 32 | J1824+5651 | 01 00 57 | 38.1 | 316.7 | 6.6 | | 48.9 | -25 | 1563 | No stop |
| 06 33 52 | --- | 01 02 17 | 38.0 | 316.8 | 6.6 | | 48.7 | 55 | 1573 | 06 32 33 |
| 06 33 52 | NGC6670B | 01 02 17 | 40.9 | 318.8 | 6.5 | | 52.0 | -25 | 1573 | No stop |
| 06 37 40 | --- | 01 06 06 | 40.5 | 319.2 | 6.5 | | 51.4 | 203 | 1603 | 06 33 53 |
| 06 37 40 | J1824+5651 | 01 06 06 | 37.6 | 317.3 | 6.7 | | 48.2 | -25 | 1603 | No stop |
| 06 39 00 | --- | 01 07 26 | 37.5 | 317.4 | 6.7 | | 48.0 | 55 | 1613 | 06 37 41 |
| 06 39 40 | NGC6670B | 01 08 06 | 40.3 | 319.4 | 6.6 | | 51.1 | 15 | 1613 | 06 39 40 |
| 06 43 28 | --- | 01 11 55 | 39.9 | 319.8 | 6.6 | | 50.6 | 228 | 1642 | 06 39 41 |
| 06 43 28 | J1824+5651 | 01 11 55 | 37.0 | 317.9 | 6.8 | | 47.4 | -25 | 1642 | No stop |
| 06 44 48 | --- | 01 13 15 | 36.9 | 318.1 | 6.8 | | 47.2 | 55 | 1652 | 06 43 29 |
| 06 44 48 | NGC6670B | 01 13 15 | 39.8 | 320.0 | 6.7 | | 50.4 | -25 | 1652 | No stop |
| 06 48 36 | --- | 01 17 04 | 39.4 | 320.4 | 6.7 | | 49.8 | 203 | 1682 | 06 44 49 |
| 06 48 36 | J1824+5651 | 01 17 04 | 36.5 | 318.5 | 6.9 | | 46.7 | -25 | 1682 | No stop |
| 06 49 56 | --- | 01 18 24 | 36.4 | 318.7 | 6.9 | | 46.5 | 55 | 1692 | 06 48 37 |
| 06 49 56 | NGC6670B | 01 18 24 | 39.3 | 320.5 | 6.7 | | 49.6 | -25 | 1692 | No stop |
| 06 53 44 | --- | 01 22 13 | 39.0 | 320.9 | 6.8 | | 49.0 | 203 | 1721 | 06 49 57 |
| 06 53 44 | J1824+5651 | 01 22 13 | 36.0 | 319.1 | 7.0 | | 45.9 | -25 | 1721 | No stop |
| 06 55 04 | --- | 01 23 33 | 35.9 | 319.3 | 7.0 | | 45.8 | 55 | 1731 | 06 53 45 |

Schedule for TORUN (Code Tr ) Page 8

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 06 55 44 | NGC6670B | 01 24 13 | 38.8 | 321.1 | 6.8 | | 48.7 | 15 | 1731 | 06 55 44 |
| 06 59 32 | --- | 01 28 02 | 38.4 | 321.5 | 6.9 | | 48.2 | 228 | 1761 | 06 55 45 |
| 06 59 32 | J1824+5651 | 01 28 02 | 35.4 | 319.8 | 7.1 | | 45.1 | -25 | 1761 | No stop |
| 07 00 52 | --- | 01 29 22 | 35.3 | 320.0 | 7.1 | | 44.9 | 55 | 1771 | 06 59 33 |
| 07 01 32 | NGC6670B | 01 30 02 | 38.2 | 321.7 | 6.9 | | 47.9 | 15 | 1771 | 07 01 32 |
| 07 05 20 | --- | 01 33 51 | 37.9 | 322.2 | 7.0 | | 47.3 | 228 | 1800 | 07 01 33 |
| 07 05 20 | J1824+5651 | 01 33 51 | 34.9 | 320.5 | 7.2 | | 44.3 | -25 | 1800 | No stop |
| 07 06 40 | --- | 01 35 11 | 34.7 | 320.7 | 7.2 | | 44.1 | 55 | 1810 | 07 05 21 |
| 07 06 40 | J2327+0940 | 01 35 11 | 39.7 | 222.3 | 2.1 | | 24.2 | -210 | 1810 | No stop |
| 07 12 10 | --- | 01 40 42 | 39.1 | 223.9 | 2.2 | | 25.0 | 120 | 1853 | 07 06 41 |
| 07 12 50 | NGC7674 | 01 41 22 | 38.3 | 223.5 | 2.2 | | 24.7 | 25 | 1853 | 07 12 50 |
| 07 16 31 | --- | 01 45 03 | 37.9 | 224.6 | 2.3 | | 25.3 | 221 | 1881 | 07 12 51 |
| 07 16 31 | J2327+0940 | 01 45 03 | 38.7 | 225.2 | 2.3 | | 25.6 | -15 | 1881 | No stop |
| 07 17 31 | --- | 01 46 04 | 38.6 | 225.5 | 2.3 | | 25.7 | 45 | 1889 | 07 16 32 |
| 07 18 11 | NGC7674 | 01 46 44 | 37.7 | 225.1 | 2.3 | | 25.5 | 25 | 1889 | 07 18 11 |
| 07 21 52 | --- | 01 50 25 | 37.3 | 226.1 | 2.4 | | 26.0 | 221 | 1917 | 07 18 12 |
| 07 21 52 | J2327+0940 | 01 50 25 | 38.1 | 226.7 | 2.4 | | 26.3 | -15 | 1917 | No stop |
| 07 22 52 | --- | 01 51 25 | 38.0 | 227.0 | 2.4 | | 26.5 | 45 | 1925 | 07 21 53 |
| 07 22 52 | NGC7674 | 01 51 25 | 37.2 | 226.4 | 2.4 | | 26.1 | -15 | 1925 | No stop |
| 07 26 34 | --- | 01 55 08 | 36.8 | 227.4 | 2.4 | | 26.6 | 207 | 1953 | 07 22 53 |
| 07 26 34 | J2327+0940 | 01 55 08 | 37.6 | 228.0 | 2.4 | | 26.9 | -15 | 1953 | No stop |
| 07 27 34 | --- | 01 56 08 | 37.5 | 228.3 | 2.5 | | 27.1 | 45 | 1961 | 07 26 35 |
| 07 27 34 | NGC7674 | 01 56 08 | 36.7 | 227.7 | 2.5 | | 26.7 | -15 | 1961 | No stop |
| 07 31 16 | --- | 01 59 51 | 36.3 | 228.7 | 2.5 | | 27.2 | 207 | 1989 | 07 27 35 |
| 07 31 16 | J2327+0940 | 01 59 51 | 37.0 | 229.3 | 2.5 | | 27.5 | -15 | 1989 | No stop |
| 07 32 16 | --- | 02 00 51 | 36.9 | 229.6 | 2.5 | | 27.6 | 45 | 1997 | 07 31 17 |
| 07 32 56 | NGC7674 | 02 01 31 | 36.1 | 229.2 | 2.5 | | 27.4 | 25 | 1997 | 07 32 56 |
| 07 36 38 | --- | 02 05 14 | 35.7 | 230.2 | 2.6 | | 27.8 | 222 | 2025 | 07 32 57 |
| 07 36 38 | J2327+0940 | 02 05 14 | 36.4 | 230.8 | 2.6 | | 28.2 | -15 | 2025 | No stop |
| 07 37 38 | --- | 02 06 14 | 36.3 | 231.0 | 2.6 | | 28.3 | 45 | 2033 | 07 36 39 |

Schedule for TORUN (Code Tr ) Page 9

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 07 37 38 | NGC7674 | 02 06 14 | 35.6 | 230.4 | 2.6 | | 27.9 | -15 | 2033 | No stop |
| 07 41 20 | --- | 02 09 56 | 35.1 | 231.4 | 2.7 | | 28.4 | 207 | 2062 | 07 37 39 |
| 07 41 20 | J2327+0940 | 02 09 56 | 35.9 | 232.0 | 2.7 | | 28.7 | -15 | 2062 | No stop |
| 07 42 20 | --- | 02 10 57 | 35.8 | 232.3 | 2.7 | | 28.8 | 45 | 2069 | 07 41 21 |
| 07 42 20 | NGC7674 | 02 10 57 | 35.0 | 231.7 | 2.7 | | 28.5 | -15 | 2069 | No stop |
| 07 46 02 | --- | 02 14 39 | 34.6 | 232.7 | 2.8 | | 28.9 | 207 | 2098 | 07 42 21 |
| 07 46 02 | J2327+0940 | 02 14 39 | 35.3 | 233.3 | 2.8 | | 29.2 | -15 | 2098 | No stop |
| 07 47 02 | --- | 02 15 39 | 35.2 | 233.6 | 2.8 | | 29.3 | 45 | 2105 | 07 46 03 |
| 07 47 42 | NGC7674 | 02 16 19 | 34.4 | 233.1 | 2.8 | | 29.1 | 25 | 2105 | 07 47 42 |
| 07 51 24 | --- | 02 20 02 | 33.9 | 234.1 | 2.9 | | 29.5 | 222 | 2134 | 07 47 43 |
| 07 51 24 | J2327+0940 | 02 20 02 | 34.7 | 234.7 | 2.9 | | 29.8 | -15 | 2134 | No stop |
| 07 52 24 | --- | 02 21 02 | 34.5 | 235.0 | 2.9 | | 29.9 | 45 | 2142 | 07 51 25 |
| 07 52 24 | NGC7674 | 02 21 02 | 33.8 | 234.3 | 2.9 | | 29.6 | -15 | 2142 | No stop |
| 07 56 06 | --- | 02 24 45 | 33.4 | 235.3 | 2.9 | | 30.0 | 207 | 2170 | 07 52 25 |
| 07 56 06 | J2327+0940 | 02 24 45 | 34.1 | 235.9 | 2.9 | | 30.3 | -15 | 2170 | No stop |
| 07 57 06 | --- | 02 25 45 | 34.0 | 236.2 | 3.0 | | 30.4 | 45 | 2178 | 07 56 07 |
| 07 57 06 | NGC7674 | 02 25 45 | 33.2 | 235.5 | 3.0 | | 30.1 | -15 | 2178 | No stop |
| 08 00 48 | --- | 02 29 28 | 32.8 | 236.5 | 3.0 | | 30.4 | 207 | 2206 | 07 57 07 |
| 08 00 48 | J2327+0940 | 02 29 28 | 33.5 | 237.1 | 3.0 | | 30.8 | -15 | 2206 | No stop |
| 08 01 48 | --- | 02 30 28 | 33.4 | 237.4 | 3.0 | | 30.9 | 45 | 2214 | 08 00 49 |
| 08 02 28 | NGC7674 | 02 31 08 | 32.6 | 236.9 | 3.0 | | 30.6 | 25 | 2214 | 08 02 28 |
| 08 06 10 | --- | 02 34 51 | 32.1 | 237.8 | 3.1 | | 31.0 | 222 | 2242 | 08 02 29 |
| 08 06 10 | J2327+0940 | 02 34 51 | 32.8 | 238.5 | 3.1 | | 31.3 | -15 | 2242 | No stop |
| 08 07 10 | --- | 02 35 51 | 32.7 | 238.7 | 3.1 | | 31.4 | 45 | 2250 | 08 06 11 |
| 08 07 10 | NGC7674 | 02 35 51 | 32.0 | 238.1 | 3.1 | | 31.1 | -15 | 2250 | No stop |
| 08 10 52 | --- | 02 39 33 | 31.5 | 239.0 | 3.2 | | 31.4 | 207 | 2278 | 08 07 11 |
| 08 10 52 | J2327+0940 | 02 39 33 | 32.2 | 239.7 | 3.2 | | 31.7 | -15 | 2278 | No stop |
| 08 11 52 | --- | 02 40 33 | 32.1 | 239.9 | 3.2 | | 31.8 | 45 | 2286 | 08 10 53 |
| 08 11 52 | NGC7674 | 02 40 33 | 31.4 | 239.3 | 3.2 | | 31.5 | -15 | 2286 | No stop |
| 08 15 34 | --- | 02 44 16 | 30.9 | 240.2 | 3.3 | | 31.8 | 207 | 2315 | 08 11 53 |

Schedule for TORUN (Code Tr ) Page 10

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 08 15 34 | J2327+0940 | 02 44 16 | 31.6 | 240.8 | 3.3 | | 32.1 | -15 | 2315 | No stop |
| 08 16 34 | --- | 02 45 16 | 31.5 | 241.1 | 3.3 | | 32.2 | 45 | 2322 | 08 15 35 |
| 08 17 14 | NGC7674 | 02 45 56 | 30.7 | 240.6 | 3.3 | | 32.0 | 25 | 2322 | 08 17 14 |
| 08 20 56 | --- | 02 49 39 | 30.2 | 241.5 | 3.3 | | 32.3 | 222 | 2351 | 08 17 15 |
| 08 20 56 | J2327+0940 | 02 49 39 | 30.9 | 242.1 | 3.4 | | 32.6 | -15 | 2351 | No stop |
| 08 21 56 | --- | 02 50 39 | 30.7 | 242.4 | 3.4 | | 32.7 | 45 | 2358 | 08 20 57 |
| 08 21 56 | NGC7674 | 02 50 39 | 30.0 | 241.7 | 3.4 | | 32.4 | -15 | 2358 | No stop |
| 08 25 38 | --- | 02 54 22 | 29.5 | 242.6 | 3.4 | | 32.7 | 207 | 2387 | 08 21 57 |
| 08 25 38 | J2327+0940 | 02 54 22 | 30.2 | 243.3 | 3.4 | | 33.0 | -14 | 2387 | No stop |
| 08 26 38 | --- | 02 55 22 | 30.1 | 243.5 | 3.5 | | 33.0 | 46 | 2395 | 08 25 39 |
| 08 26 38 | NGC7674 | 02 55 22 | 29.4 | 242.8 | 3.4 | | 32.7 | -15 | 2395 | No stop |
| 08 30 20 | --- | 02 59 04 | 28.9 | 243.7 | 3.5 | | 33.0 | 207 | 2423 | 08 26 39 |
| 08 30 20 | J2327+0940 | 02 59 04 | 29.6 | 244.4 | 3.5 | | 33.3 | -14 | 2423 | No stop |
| 08 31 20 | --- | 03 00 05 | 29.5 | 244.6 | 3.5 | | 33.4 | 46 | 2431 | 08 30 21 |
| 08 32 00 | NGC7674 | 03 00 45 | 28.7 | 244.1 | 3.5 | | 33.1 | 25 | 2431 | 08 32 00 |
| 08 35 42 | --- | 03 04 27 | 28.2 | 245.0 | 3.6 | | 33.4 | 222 | 2459 | 08 32 01 |
| 08 35 42 | J2327+0940 | 03 04 27 | 28.9 | 245.6 | 3.6 | | 33.7 | -14 | 2459 | No stop |
| 08 36 42 | --- | 03 05 28 | 28.7 | 245.9 | 3.6 | | 33.8 | 46 | 2467 | 08 35 43 |
| 08 36 42 | NGC7674 | 03 05 28 | 28.1 | 245.2 | 3.6 | | 33.5 | -15 | 2467 | No stop |
| 08 40 24 | --- | 03 09 10 | 27.5 | 246.1 | 3.7 | | 33.8 | 207 | 2495 | 08 36 43 |
| 08 40 24 | J2327+0940 | 03 09 10 | 28.2 | 246.7 | 3.7 | | 34.0 | -14 | 2495 | No stop |
| 08 41 24 | --- | 03 10 10 | 28.1 | 247.0 | 3.7 | | 34.1 | 46 | 2503 | 08 40 25 |
| 08 41 24 | NGC7674 | 03 10 10 | 27.4 | 246.3 | 3.7 | | 33.8 | -15 | 2503 | No stop |
| 08 45 06 | --- | 03 13 53 | 26.9 | 247.2 | 3.8 | | 34.1 | 207 | 2532 | 08 41 25 |
| 08 45 06 | J2327+0940 | 03 13 53 | 27.6 | 247.8 | 3.8 | | 34.3 | -14 | 2532 | No stop |
| 08 46 06 | --- | 03 14 53 | 27.4 | 248.1 | 3.8 | | 34.4 | 46 | 2539 | 08 45 07 |
| 08 46 46 | NGC7674 | 03 15 33 | 26.7 | 247.6 | 3.8 | | 34.2 | 25 | 2539 | 08 46 46 |
| 08 50 28 | --- | 03 19 16 | 26.1 | 248.4 | 3.8 | | 34.4 | 222 | 2568 | 08 46 47 |
| 08 50 28 | J2327+0940 | 03 19 16 | 26.8 | 249.1 | 3.8 | | 34.7 | -14 | 2568 | No stop |
| 08 51 28 | --- | 03 20 16 | 26.7 | 249.3 | 3.9 | | 34.7 | 46 | 2575 | 08 50 29 |

Schedule for TORUN (Code Tr ) Page 11

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 08 52 08 | NGC7674 | 03 20 56 | 25.9 | 248.8 | 3.9 | | 34.5 | 25 | 2575 | 08 52 08 |
| 08 55 50 | --- | 03 24 39 | 25.4 | 249.6 | 3.9 | | 34.7 | 222 | 2604 | 08 52 09 |
| 08 55 50 | J2327+0940 | 03 24 39 | 26.1 | 250.3 | 3.9 | | 35.0 | -14 | 2604 | No stop |
| 08 56 50 | --- | 03 25 39 | 25.9 | 250.5 | 4.0 | | 35.1 | 46 | 2612 | 08 55 51 |
| 08 56 50 | J0152+2207 | 03 25 39 | 54.4 | 218.7 | 1.5 | | 23.9 | -120 | 2612 | No stop |
| 08 59 40 | --- | 03 28 29 | 54.1 | 219.7 | 1.6 | | 24.5 | 50 | 2633 | 08 56 51 |
| 08 59 40 | NGC0695 | 03 28 29 | 54.5 | 220.4 | 1.6 | | 25.0 | -13 | 2633 | No stop |
| 09 03 20 | --- | 03 32 10 | 54.1 | 221.8 | 1.7 | | 25.7 | 207 | 2662 | 08 59 41 |
| 09 03 20 | J0152+2207 | 03 32 10 | 53.8 | 221.0 | 1.7 | | 25.2 | -12 | 2662 | No stop |
| 09 04 20 | --- | 03 33 10 | 53.7 | 221.4 | 1.7 | | 25.4 | 48 | 2669 | 09 03 21 |
| 09 05 00 | NGC0695 | 03 33 50 | 53.9 | 222.3 | 1.7 | | 26.0 | 27 | 2669 | 09 05 00 |
| 09 08 40 | --- | 03 37 31 | 53.6 | 223.6 | 1.8 | | 26.7 | 220 | 2697 | 09 05 01 |
| 09 08 40 | J0152+2207 | 03 37 31 | 53.3 | 222.9 | 1.7 | | 26.2 | -12 | 2697 | No stop |
| 09 09 40 | --- | 03 38 31 | 53.1 | 223.3 | 1.8 | | 26.4 | 48 | 2705 | 09 08 41 |
| 09 09 40 | NGC0695 | 03 38 31 | 53.5 | 224.0 | 1.8 | | 26.9 | -13 | 2705 | No stop |
| 09 13 20 | --- | 03 42 12 | 53.1 | 225.2 | 1.8 | | 27.5 | 207 | 2733 | 09 09 41 |
| 09 13 20 | J0152+2207 | 03 42 12 | 52.8 | 224.5 | 1.8 | | 27.1 | -12 | 2733 | No stop |
| 09 14 20 | --- | 03 43 12 | 52.7 | 224.9 | 1.8 | | 27.2 | 48 | 2741 | 09 13 21 |
| 09 14 20 | NGC0695 | 03 43 12 | 53.0 | 225.6 | 1.9 | | 27.7 | -13 | 2741 | No stop |
| 09 18 00 | --- | 03 46 52 | 52.6 | 226.8 | 1.9 | | 28.3 | 207 | 2769 | 09 14 21 |
| 09 18 00 | J0152+2207 | 03 46 52 | 52.3 | 226.1 | 1.9 | | 27.9 | -12 | 2769 | No stop |
| 09 19 00 | --- | 03 47 52 | 52.2 | 226.4 | 1.9 | | 28.0 | 48 | 2777 | 09 18 01 |
| 09 19 40 | NGC0695 | 03 48 33 | 52.4 | 227.4 | 1.9 | | 28.6 | 27 | 2777 | 09 19 40 |
| 09 23 20 | --- | 03 52 13 | 52.0 | 228.6 | 2.0 | | 29.2 | 220 | 2805 | 09 19 41 |
| 09 23 20 | J0152+2207 | 03 52 13 | 51.7 | 227.9 | 2.0 | | 28.8 | -12 | 2805 | No stop |
| 09 24 20 | --- | 03 53 13 | 51.6 | 228.2 | 2.0 | | 28.9 | 48 | 2813 | 09 23 21 |
| 09 24 20 | NGC0695 | 03 53 13 | 51.9 | 228.9 | 2.0 | | 29.4 | -13 | 2813 | No stop |
| 09 28 00 | --- | 03 56 54 | 51.4 | 230.1 | 2.1 | | 29.9 | 207 | 2841 | 09 24 21 |
| 09 28 00 | J0152+2207 | 03 56 54 | 51.2 | 229.4 | 2.1 | | 29.5 | -12 | 2841 | No stop |
| 09 29 00 | --- | 03 57 54 | 51.0 | 229.7 | 2.1 | | 29.7 | 48 | 2849 | 09 28 01 |

Schedule for TORUN (Code Tr ) Page 12

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 09 29 00 | NGC0695 | 03 57 54 | 51.3 | 230.4 | 2.1 | | 30.1 | -13 | 2849 | No stop |
| 09 32 40 | --- | 04 01 35 | 50.9 | 231.6 | 2.2 | | 30.7 | 207 | 2877 | 09 29 01 |
| 09 32 40 | J0152+2207 | 04 01 35 | 50.6 | 230.9 | 2.1 | | 30.2 | -12 | 2877 | No stop |
| 09 33 40 | --- | 04 02 35 | 50.5 | 231.2 | 2.2 | | 30.4 | 48 | 2885 | 09 32 41 |
| 09 34 20 | NGC0695 | 04 03 15 | 50.7 | 232.1 | 2.2 | | 30.9 | 27 | 2885 | 09 34 20 |
| 09 38 00 | --- | 04 06 56 | 50.3 | 233.3 | 2.2 | | 31.4 | 220 | 2913 | 09 34 21 |
| 09 38 00 | J0152+2207 | 04 06 56 | 50.0 | 232.6 | 2.2 | | 31.0 | -12 | 2913 | No stop |
| 09 39 00 | --- | 04 07 56 | 49.9 | 232.9 | 2.2 | | 31.1 | 48 | 2921 | 09 38 01 |
| 09 39 00 | NGC0695 | 04 07 56 | 50.1 | 233.6 | 2.3 | | 31.6 | -13 | 2921 | No stop |
| 09 42 40 | --- | 04 11 36 | 49.7 | 234.7 | 2.3 | | 32.1 | 207 | 2949 | 09 39 01 |
| 09 42 40 | J0152+2207 | 04 11 36 | 49.4 | 234.0 | 2.3 | | 31.6 | -12 | 2949 | No stop |
| 09 43 40 | --- | 04 12 37 | 49.3 | 234.3 | 2.3 | | 31.8 | 48 | 2956 | 09 42 41 |
| 09 43 40 | NGC0695 | 04 12 37 | 49.6 | 235.0 | 2.3 | | 32.2 | -13 | 2956 | No stop |
| 09 47 20 | --- | 04 16 17 | 49.1 | 236.1 | 2.4 | | 32.7 | 207 | 2985 | 09 43 41 |
| 09 47 20 | J0152+2207 | 04 16 17 | 48.8 | 235.4 | 2.4 | | 32.3 | -12 | 2985 | No stop |
| 09 48 20 | --- | 04 17 17 | 48.7 | 235.7 | 2.4 | | 32.4 | 48 | 2992 | 09 47 21 |
| 09 49 00 | NGC0695 | 04 17 57 | 48.9 | 236.6 | 2.4 | | 32.9 | 27 | 2992 | 09 49 00 |
| 09 52 40 | --- | 04 21 38 | 48.4 | 237.7 | 2.5 | | 33.3 | 220 | 3021 | 09 49 01 |
| 09 52 40 | J0152+2207 | 04 21 38 | 48.2 | 237.0 | 2.5 | | 32.9 | -12 | 3021 | No stop |
| 09 53 40 | --- | 04 22 38 | 48.1 | 237.3 | 2.5 | | 33.1 | 48 | 3028 | 09 52 41 |
| 09 53 40 | NGC0695 | 04 22 38 | 48.3 | 237.9 | 2.5 | | 33.5 | -13 | 3028 | No stop |
| 09 57 20 | --- | 04 26 19 | 47.8 | 239.0 | 2.6 | | 33.9 | 207 | 3056 | 09 53 41 |
| 09 57 20 | J0152+2207 | 04 26 19 | 47.6 | 238.3 | 2.6 | | 33.5 | -12 | 3056 | No stop |
| 09 58 20 | --- | 04 27 19 | 47.5 | 238.6 | 2.6 | | 33.6 | 48 | 3064 | 09 57 21 |
| 09 58 20 | NGC0695 | 04 27 19 | 47.7 | 239.3 | 2.6 | | 34.0 | -13 | 3064 | No stop |
| 10 02 00 | --- | 04 31 00 | 47.2 | 240.3 | 2.6 | | 34.4 | 207 | 3092 | 09 58 21 |
| 10 02 00 | J0152+2207 | 04 31 00 | 47.0 | 239.6 | 2.6 | | 34.0 | -12 | 3092 | No stop |
| 10 03 00 | --- | 04 32 00 | 46.9 | 239.9 | 2.6 | | 34.1 | 48 | 3100 | 10 02 01 |
| 10 03 40 | NGC0695 | 04 32 40 | 47.0 | 240.8 | 2.7 | | 34.6 | 27 | 3100 | 10 03 40 |
| 10 07 20 | --- | 04 36 20 | 46.5 | 241.8 | 2.7 | | 35.0 | 220 | 3128 | 10 03 41 |

Schedule for TORUN (Code Tr ) Page 13

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 10 07 20 | J0152+2207 | 04 36 20 | 46.3 | 241.1 | 2.7 | | 34.6 | -12 | 3128 | No stop |
| 10 08 20 | --- | 04 37 21 | 46.2 | 241.4 | 2.7 | | 34.7 | 48 | 3136 | 10 07 21 |
| 10 08 20 | NGC0695 | 04 37 21 | 46.4 | 242.1 | 2.8 | | 35.1 | -13 | 3136 | No stop |
| 10 12 00 | --- | 04 41 01 | 45.9 | 243.1 | 2.8 | | 35.5 | 207 | 3164 | 10 08 21 |
| 10 12 00 | J0152+2207 | 04 41 01 | 45.7 | 242.4 | 2.8 | | 35.1 | -12 | 3164 | No stop |
| 10 13 00 | --- | 04 42 01 | 45.5 | 242.7 | 2.8 | | 35.2 | 48 | 3172 | 10 12 01 |
| 10 13 00 | NGC0695 | 04 42 01 | 45.8 | 243.4 | 2.8 | | 35.6 | -12 | 3172 | No stop |
| 10 16 40 | --- | 04 45 42 | 45.3 | 244.3 | 2.9 | | 35.9 | 208 | 3200 | 10 13 01 |
| 10 16 40 | J0152+2207 | 04 45 42 | 45.0 | 243.7 | 2.9 | | 35.5 | -12 | 3200 | No stop |
| 10 17 40 | --- | 04 46 42 | 44.9 | 243.9 | 2.9 | | 35.6 | 48 | 3208 | 10 16 41 |
| 10 18 20 | NGC0695 | 04 47 22 | 45.0 | 244.8 | 2.9 | | 36.1 | 28 | 3208 | 10 18 20 |
| 10 22 00 | --- | 04 51 03 | 44.5 | 245.7 | 3.0 | | 36.4 | 220 | 3236 | 10 18 21 |
| 10 22 00 | J0152+2207 | 04 51 03 | 44.3 | 245.1 | 3.0 | | 36.0 | -12 | 3236 | No stop |
| 10 23 00 | --- | 04 52 03 | 44.2 | 245.3 | 3.0 | | 36.1 | 48 | 3244 | 10 22 01 |
| 10 23 00 | NGC0695 | 04 52 03 | 44.4 | 246.0 | 3.0 | | 36.5 | -12 | 3244 | No stop |
| 10 26 40 | --- | 04 55 44 | 43.9 | 246.9 | 3.1 | | 36.8 | 208 | 3272 | 10 23 01 |
| 10 26 40 | J0152+2207 | 04 55 44 | 43.7 | 246.3 | 3.0 | | 36.4 | -12 | 3272 | No stop |
| 10 27 40 | --- | 04 56 44 | 43.5 | 246.6 | 3.1 | | 36.5 | 48 | 3279 | 10 26 41 |
| 10 27 40 | NGC0695 | 04 56 44 | 43.8 | 247.2 | 3.1 | | 36.9 | -12 | 3279 | No stop |
| 10 31 20 | --- | 05 00 24 | 43.3 | 248.1 | 3.1 | | 37.1 | 208 | 3308 | 10 27 41 |
| 10 31 20 | J0152+2207 | 05 00 24 | 43.0 | 247.5 | 3.1 | | 36.8 | -12 | 3308 | No stop |
| 10 32 20 | --- | 05 01 25 | 42.9 | 247.7 | 3.1 | | 36.9 | 48 | 3315 | 10 31 21 |
| 10 33 00 | NGC0695 | 05 02 05 | 43.0 | 248.6 | 3.2 | | 37.3 | 28 | 3315 | 10 33 00 |
| 10 36 40 | --- | 05 05 45 | 42.5 | 249.5 | 3.2 | | 37.5 | 220 | 3344 | 10 33 01 |
| 10 36 40 | J0152+2207 | 05 05 45 | 42.3 | 248.8 | 3.2 | | 37.2 | -12 | 3344 | No stop |
| 10 37 40 | --- | 05 06 45 | 42.1 | 249.1 | 3.2 | | 37.3 | 48 | 3351 | 10 36 41 |
| 10 37 40 | NGC0695 | 05 06 45 | 42.4 | 249.7 | 3.2 | | 37.6 | -12 | 3351 | No stop |
| 10 41 20 | --- | 05 10 26 | 41.8 | 250.6 | 3.3 | | 37.9 | 208 | 3379 | 10 37 41 |
| 10 41 20 | J0152+2207 | 05 10 26 | 41.6 | 250.0 | 3.3 | | 37.5 | -12 | 3379 | No stop |
| 10 42 20 | --- | 05 11 26 | 41.5 | 250.2 | 3.3 | | 37.6 | 48 | 3387 | 10 41 21 |

Schedule for TORUN (Code Tr ) Page 14

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 10 42 20 | NGC0695 | 05 11 26 | 41.7 | 250.9 | 3.3 | | 37.9 | -12 | 3387 | No stop |
| 10 46 00 | --- | 05 15 07 | 41.2 | 251.8 | 3.4 | | 38.2 | 208 | 3415 | 10 42 21 |
| 10 46 00 | J0152+2207 | 05 15 07 | 41.0 | 251.1 | 3.4 | | 37.9 | -12 | 3415 | No stop |
| 10 47 00 | --- | 05 16 07 | 40.8 | 251.4 | 3.4 | | 37.9 | 48 | 3423 | 10 46 01 |
| 10 47 40 | NGC0695 | 05 16 47 | 40.9 | 252.2 | 3.4 | | 38.3 | 28 | 3423 | 10 47 40 |
| 10 51 20 | --- | 05 20 28 | 40.4 | 253.0 | 3.5 | | 38.5 | 220 | 3451 | 10 47 41 |
| 10 51 20 | J0152+2207 | 05 20 28 | 40.2 | 252.4 | 3.5 | | 38.2 | -12 | 3451 | No stop |
| 10 52 20 | --- | 05 21 28 | 40.1 | 252.7 | 3.5 | | 38.2 | 48 | 3459 | 10 51 21 |
| 10 52 20 | J1302+5748 | 05 21 28 | 32.6 | 394.9 | -7.7 | | -40.0 | -301 | 3459 | No stop |
| 11 01 20 | --- | 05 30 29 | 33.3 | 396.0 | -7.5 | | -41.3 | 239 | 3528 | 10 52 21 |
| 11 02 00 | VV250A | 05 31 09 | 35.6 | 391.1 | -7.7 | | -41.5 | 15 | 3528 | 11 02 00 |
| 11 05 40 | --- | 05 34 50 | 35.9 | 391.5 | -7.7 | | -42.1 | 220 | 3556 | 11 02 01 |
| 11 05 40 | J1302+5748 | 05 34 50 | 33.7 | 396.5 | -7.5 | | -42.0 | -25 | 3556 | No stop |
| 11 07 00 | --- | 05 36 10 | 33.8 | 396.6 | -7.5 | | -42.2 | 55 | 3567 | 11 05 41 |
| 11 07 40 | VV250A | 05 36 50 | 36.0 | 391.7 | -7.7 | | -42.4 | 15 | 3567 | 11 07 40 |
| 11 11 20 | --- | 05 40 31 | 36.3 | 392.1 | -7.6 | | -43.0 | 220 | 3595 | 11 07 41 |
| 11 11 20 | J1302+5748 | 05 40 31 | 34.2 | 397.1 | -7.4 | | -42.8 | -25 | 3595 | No stop |
| 11 12 40 | --- | 05 41 51 | 34.4 | 397.3 | -7.4 | | -43.0 | 55 | 3605 | 11 11 21 |
| 11 12 40 | VV250A | 05 41 51 | 36.4 | 392.3 | -7.6 | | -43.2 | -25 | 3605 | No stop |
| 11 16 20 | --- | 05 45 32 | 36.7 | 392.7 | -7.5 | | -43.7 | 195 | 3633 | 11 12 41 |
| 11 16 20 | J1302+5748 | 05 45 32 | 34.7 | 397.7 | -7.3 | | -43.5 | -25 | 3633 | No stop |
| 11 17 40 | --- | 05 46 52 | 34.8 | 397.9 | -7.3 | | -43.7 | 55 | 3644 | 11 16 21 |
| 11 17 40 | VV250A | 05 46 52 | 36.8 | 392.8 | -7.5 | | -44.0 | -25 | 3644 | No stop |
| 11 21 20 | --- | 05 50 33 | 37.1 | 393.2 | -7.4 | | -44.5 | 195 | 3672 | 11 17 41 |
| 11 21 20 | J1302+5748 | 05 50 33 | 35.2 | 398.3 | -7.2 | | -44.2 | -25 | 3672 | No stop |
| 11 22 40 | --- | 05 51 53 | 35.3 | 398.5 | -7.2 | | -44.4 | 55 | 3682 | 11 21 21 |
| 11 23 20 | VV250A | 05 52 33 | 37.3 | 393.4 | -7.4 | | -44.8 | 15 | 3682 | 11 23 20 |
| 11 27 00 | --- | 05 56 14 | 37.6 | 393.8 | -7.3 | | -45.4 | 220 | 3710 | 11 23 21 |
| 11 27 00 | J1302+5748 | 05 56 14 | 35.7 | 399.0 | -7.1 | | -45.1 | -26 | 3710 | No stop |
| 11 28 20 | --- | 05 57 34 | 35.8 | 399.1 | -7.1 | | -45.2 | 54 | 3721 | 11 27 01 |
| 11 28 20 | VV250A | 05 57 34 | 37.7 | 393.9 | -7.3 | | -45.6 | -25 | 3721 | No stop |
| 11 32 00 | --- | 06 01 14 | 38.0 | 394.3 | -7.2 | | -46.2 | 195 | 3749 | 11 28 21 |

Schedule for TORUN (Code Tr ) Page 15

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 11 32 00 | J1302+5748 | 06 01 14 | 36.2 | 399.6 | -7.0 | | -45.8 | -26 | 3749 | No stop |
| 11 33 20 | --- | 06 02 35 | 36.3 | 399.7 | -7.0 | | -46.0 | 54 | 3759 | 11 32 01 |
| 11 33 20 | VV250A | 06 02 35 | 38.1 | 394.4 | -7.2 | | -46.4 | -26 | 3759 | No stop |
| 11 37 00 | --- | 06 06 15 | 38.5 | 394.8 | -7.2 | | -47.0 | 194 | 3787 | 11 33 21 |
| 11 37 00 | J1302+5748 | 06 06 15 | 36.7 | 400.1 | -7.0 | | -46.5 | -26 | 3787 | No stop |
| 11 38 20 | --- | 06 07 35 | 36.8 | 400.3 | -6.9 | | -46.7 | 54 | 3797 | 11 37 01 |
| 11 39 00 | VV250A | 06 08 15 | 38.6 | 395.0 | -7.1 | | -47.3 | 14 | 3797 | 11 39 00 |
| 11 42 40 | --- | 06 11 56 | 38.9 | 395.4 | -7.1 | | -47.9 | 220 | 3826 | 11 39 01 |
| 11 42 40 | J1302+5748 | 06 11 56 | 37.2 | 400.8 | -6.9 | | -47.3 | -26 | 3826 | No stop |
| 11 44 00 | --- | 06 13 16 | 37.3 | 400.9 | -6.8 | | -47.5 | 54 | 3836 | 11 42 41 |
| 11 44 00 | VV250A | 06 13 16 | 39.1 | 395.5 | -7.0 | | -48.1 | -26 | 3836 | No stop |
| 11 47 40 | --- | 06 16 57 | 39.4 | 395.9 | -7.0 | | -48.7 | 194 | 3864 | 11 44 01 |
| 11 47 40 | J1302+5748 | 06 16 57 | 37.7 | 401.4 | -6.8 | | -48.0 | -26 | 3864 | No stop |
| 11 49 00 | --- | 06 18 17 | 37.8 | 401.5 | -6.8 | | -48.2 | 54 | 3874 | 11 47 41 |
| 11 49 00 | VV250A | 06 18 17 | 39.5 | 396.0 | -7.0 | | -48.9 | -26 | 3874 | No stop |
| 11 52 40 | --- | 06 21 58 | 39.8 | 396.4 | -6.9 | | -49.5 | 194 | 3903 | 11 49 01 |
| 11 52 40 | J1302+5748 | 06 21 58 | 38.2 | 401.9 | -6.7 | | -48.7 | -26 | 3903 | No stop |
| 11 54 00 | --- | 06 23 18 | 38.3 | 402.1 | -6.7 | | -48.9 | 54 | 3913 | 11 52 41 |
| 11 54 40 | VV250A | 06 23 58 | 40.0 | 396.6 | -6.9 | | -49.8 | 14 | 3913 | 11 54 40 |
| 11 58 20 | --- | 06 27 39 | 40.3 | 397.0 | -6.8 | | -50.4 | 220 | 3941 | 11 54 41 |
| 11 58 20 | J1302+5748 | 06 27 39 | 38.8 | 402.6 | -6.6 | | -49.5 | -26 | 3941 | No stop |
| 11 59 40 | --- | 06 28 59 | 38.9 | 402.7 | -6.6 | | -49.7 | 54 | 3951 | 11 58 21 |
| 11 59 40 | VV250A | 06 28 59 | 40.5 | 397.1 | -6.8 | | -50.6 | -26 | 3951 | No stop |
| 12 03 20 | --- | 06 32 39 | 40.8 | 397.4 | -6.7 | | -51.2 | 194 | 3979 | 11 59 41 |
| 12 03 20 | J1302+5748 | 06 32 39 | 39.3 | 403.1 | -6.5 | | -50.2 | -26 | 3979 | No stop |
| 12 04 40 | --- | 06 34 00 | 39.4 | 403.3 | -6.5 | | -50.4 | 54 | 3990 | 12 03 21 |
| 12 04 40 | VV250A | 06 34 00 | 40.9 | 397.6 | -6.7 | | -51.4 | -26 | 3990 | No stop |
| 12 08 20 | --- | 06 37 40 | 41.3 | 397.9 | -6.6 | | -52.0 | 194 | 4018 | 12 04 41 |
| 12 08 20 | J1302+5748 | 06 37 40 | 39.8 | 403.7 | -6.4 | | -51.0 | -27 | 4018 | No stop |
| 12 09 40 | --- | 06 39 01 | 39.9 | 403.8 | -6.4 | | -51.1 | 53 | 4028 | 12 08 21 |
| 12 10 20 | VV250A | 06 39 41 | 41.4 | 398.1 | -6.6 | | -52.3 | 14 | 4028 | 12 10 20 |
| 12 14 00 | --- | 06 43 21 | 41.8 | 398.5 | -6.5 | | -52.8 | 220 | 4056 | 12 10 21 |

Schedule for TORUN (Code Tr ) Page 16

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 12 14 00 | J1302+5748 | 06 43 21 | 40.4 | 404.3 | -6.3 | | -51.8 | -27 | 4056 | No stop |
| 12 15 20 | --- | 06 44 41 | 40.5 | 404.4 | -6.3 | | -51.9 | 53 | 4067 | 12 14 01 |
| 12 15 20 | VV250A | 06 44 41 | 41.9 | 398.6 | -6.5 | | -53.1 | -27 | 4067 | No stop |
| 12 19 00 | --- | 06 48 22 | 42.3 | 398.9 | -6.5 | | -53.6 | 193 | 4095 | 12 15 21 |
| 12 19 00 | J1302+5748 | 06 48 22 | 40.9 | 404.8 | -6.3 | | -52.5 | -27 | 4095 | No stop |
| 12 20 20 | --- | 06 49 42 | 41.1 | 405.0 | -6.2 | | -52.7 | 53 | 4105 | 12 19 01 |
| 12 20 20 | VV250A | 06 49 42 | 42.4 | 399.1 | -6.4 | | -53.8 | -27 | 4105 | No stop |
| 12 24 00 | --- | 06 53 23 | 42.7 | 399.4 | -6.4 | | -54.4 | 193 | 4133 | 12 20 21 |
| 12 24 00 | J1302+5748 | 06 53 23 | 41.5 | 405.4 | -6.2 | | -53.2 | -27 | 4133 | No stop |
| 12 25 20 | --- | 06 54 43 | 41.6 | 405.5 | -6.1 | | -53.4 | 53 | 4144 | 12 24 01 |
| 12 26 00 | VV250A | 06 55 23 | 42.9 | 399.6 | -6.3 | | -54.7 | 13 | 4144 | 12 26 00 |
| 12 29 40 | --- | 06 59 04 | 43.3 | 399.9 | -6.3 | | -55.3 | 220 | 4172 | 12 26 01 |
| 12 29 40 | J1302+5748 | 06 59 04 | 42.1 | 406.0 | -6.1 | | -54.0 | -27 | 4172 | No stop |
| 12 31 00 | --- | 07 00 24 | 42.2 | 406.1 | -6.1 | | -54.2 | 53 | 4182 | 12 29 41 |
| 12 31 00 | VV250A | 07 00 24 | 43.4 | 400.1 | -6.3 | | -55.5 | -27 | 4182 | No stop |
| 12 34 40 | --- | 07 04 05 | 43.8 | 400.4 | -6.2 | | -56.1 | 193 | 4210 | 12 31 01 |
| 12 34 40 | J1302+5748 | 07 04 05 | 42.6 | 406.5 | -6.0 | | -54.7 | -27 | 4210 | No stop |
| 12 36 00 | --- | 07 05 25 | 42.8 | 406.6 | -6.0 | | -54.9 | 53 | 4221 | 12 34 41 |
| 12 36 00 | VV250A | 07 05 25 | 43.9 | 400.5 | -6.2 | | -56.3 | -27 | 4221 | No stop |
| 12 39 40 | --- | 07 09 05 | 44.2 | 400.8 | -6.1 | | -56.9 | 193 | 4249 | 12 36 01 |
| 12 39 40 | J1302+5748 | 07 09 05 | 43.2 | 407.0 | -5.9 | | -55.4 | -27 | 4249 | No stop |
| 12 41 00 | --- | 07 10 26 | 43.3 | 407.2 | -5.9 | | -55.6 | 53 | 4259 | 12 39 41 |
| 12 41 40 | VV250A | 07 11 06 | 44.4 | 401.0 | -6.1 | | -57.2 | 13 | 4259 | 12 41 40 |
| 12 45 20 | --- | 07 14 46 | 44.8 | 401.3 | -6.0 | | -57.8 | 220 | 4287 | 12 41 41 |
| 12 45 20 | J1302+5748 | 07 14 46 | 43.8 | 407.6 | -5.8 | | -56.2 | -28 | 4287 | No stop |
| 12 46 40 | --- | 07 16 07 | 43.9 | 407.7 | -5.8 | | -56.4 | 52 | 4297 | 12 45 21 |
| 12 46 40 | VV250A | 07 16 07 | 44.9 | 401.5 | -6.0 | | -58.0 | -28 | 4297 | No stop |
| 12 50 20 | --- | 07 19 47 | 45.3 | 401.8 | -5.9 | | -58.6 | 192 | 4326 | 12 46 41 |
| 12 50 20 | J1302+5748 | 07 19 47 | 44.3 | 408.1 | -5.7 | | -56.9 | -28 | 4326 | No stop |
| 12 51 40 | --- | 07 21 07 | 44.5 | 408.3 | -5.7 | | -57.1 | 52 | 4336 | 12 50 21 |
| 12 52 20 | VV250A | 07 21 48 | 45.5 | 402.0 | -5.9 | | -58.9 | 12 | 4336 | 12 52 20 |
| 12 56 00 | --- | 07 25 28 | 45.9 | 402.3 | -5.8 | | -59.5 | 220 | 4364 | 12 52 21 |

Schedule for TORUN (Code Tr ) Page 17

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 12 56 00 | J1302+5748 | 07 25 28 | 45.0 | 408.7 | -5.6 | | -57.7 | -28 | 4364 | No stop |
| 12 57 20 | --- | 07 26 48 | 45.1 | 408.8 | -5.6 | | -57.9 | 52 | 4374 | 12 56 01 |
| 12 58 00 | VV250A | 07 27 28 | 46.1 | 402.4 | -5.8 | | -59.8 | 12 | 4374 | 12 58 00 |
| 13 01 40 | --- | 07 31 09 | 46.5 | 402.7 | -5.7 | | -60.4 | 220 | 4403 | 12 58 01 |
| 13 01 40 | J1302+5748 | 07 31 09 | 45.6 | 409.3 | -5.5 | | -58.5 | -28 | 4403 | No stop |
| 13 03 00 | --- | 07 32 29 | 45.8 | 409.4 | -5.5 | | -58.7 | 52 | 4413 | 13 01 41 |
| 13 03 40 | UGC08058 | 07 33 09 | 46.1 | 411.3 | -5.4 | | -58.8 | 23 | 4413 | 13 03 40 |
| 13 07 20 | --- | 07 36 50 | 46.6 | 411.7 | -5.3 | | -59.3 | 220 | 4441 | 13 03 41 |
| 13 07 20 | J1302+5748 | 07 36 50 | 46.3 | 409.8 | -5.4 | | -59.3 | -17 | 4441 | No stop |
| 13 08 20 | --- | 07 37 50 | 46.4 | 409.9 | -5.4 | | -59.4 | 43 | 4449 | 13 07 21 |
| 13 09 00 | UGC08058 | 07 38 30 | 46.8 | 411.8 | -5.3 | | -59.6 | 23 | 4449 | 13 09 00 |
| 13 12 40 | --- | 07 42 11 | 47.2 | 412.2 | -5.2 | | -60.1 | 220 | 4477 | 13 09 01 |
| 13 12 40 | J1302+5748 | 07 42 11 | 46.9 | 410.4 | -5.4 | | -60.0 | -17 | 4477 | No stop |
| 13 13 40 | --- | 07 43 11 | 47.0 | 410.5 | -5.3 | | -60.2 | 43 | 4485 | 13 12 41 |
| 13 13 40 | UGC08058 | 07 43 11 | 47.3 | 412.3 | -5.2 | | -60.2 | -17 | 4485 | No stop |
| 13 17 20 | --- | 07 46 52 | 47.8 | 412.7 | -5.2 | | -60.7 | 203 | 4513 | 13 13 41 |
| 13 17 20 | J1302+5748 | 07 46 52 | 47.4 | 410.8 | -5.3 | | -60.7 | -17 | 4513 | No stop |
| 13 18 20 | --- | 07 47 52 | 47.5 | 410.9 | -5.3 | | -60.8 | 43 | 4521 | 13 17 21 |
| 13 19 00 | UGC08058 | 07 48 32 | 48.0 | 412.8 | -5.1 | | -60.9 | 23 | 4521 | 13 19 00 |
| 13 22 40 | --- | 07 52 13 | 48.4 | 413.2 | -5.1 | | -61.4 | 220 | 4549 | 13 19 01 |
| 13 22 40 | J1302+5748 | 07 52 13 | 48.1 | 411.3 | -5.2 | | -61.4 | -17 | 4549 | No stop |
| 13 23 40 | --- | 07 53 13 | 48.2 | 411.4 | -5.2 | | -61.6 | 43 | 4556 | 13 22 41 |
| 13 24 20 | UGC08058 | 07 53 53 | 48.6 | 413.4 | -5.0 | | -61.6 | 23 | 4556 | 13 24 20 |
| 13 28 00 | --- | 07 57 33 | 49.0 | 413.7 | -5.0 | | -62.1 | 220 | 4585 | 13 24 21 |
| 13 28 00 | J1302+5748 | 07 57 33 | 48.7 | 411.8 | -5.1 | | -62.2 | -17 | 4585 | No stop |
| 13 29 00 | --- | 07 58 34 | 48.8 | 411.9 | -5.1 | | -62.3 | 43 | 4592 | 13 28 01 |
| 13 29 00 | UGC08058 | 07 58 34 | 49.2 | 413.8 | -5.0 | | -62.3 | -17 | 4592 | No stop |
| 13 32 40 | --- | 08 02 14 | 49.6 | 414.2 | -4.9 | | -62.8 | 203 | 4621 | 13 29 01 |
| 13 32 40 | J1302+5748 | 08 02 14 | 49.2 | 412.3 | -5.0 | | -62.8 | -17 | 4621 | No stop |
| 13 33 40 | --- | 08 03 14 | 49.4 | 412.4 | -5.0 | | -63.0 | 43 | 4628 | 13 32 41 |
| 13 34 20 | UGC08058 | 08 03 54 | 49.8 | 414.3 | -4.9 | | -63.0 | 23 | 4628 | 13 34 20 |
| 13 38 00 | --- | 08 07 35 | 50.3 | 414.7 | -4.8 | | -63.5 | 220 | 4656 | 13 34 21 |

Schedule for TORUN (Code Tr ) Page 18

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 13 38 00 | J1302+5748 | 08 07 35 | 49.9 | 412.8 | -4.9 | | -63.6 | -17 | 4656 | No stop |
| 13 39 00 | --- | 08 08 35 | 50.0 | 412.9 | -4.9 | | -63.7 | 43 | 4664 | 13 38 01 |
| 13 39 40 | UGC08058 | 08 09 15 | 50.5 | 414.9 | -4.8 | | -63.7 | 23 | 4664 | 13 39 40 |
| 13 43 20 | --- | 08 12 56 | 50.9 | 415.2 | -4.7 | | -64.2 | 220 | 4692 | 13 39 41 |
| 13 43 20 | J1302+5748 | 08 12 56 | 50.5 | 413.3 | -4.8 | | -64.3 | -17 | 4692 | No stop |
| 13 44 20 | --- | 08 13 56 | 50.6 | 413.3 | -4.8 | | -64.5 | 43 | 4700 | 13 43 21 |
| 13 44 20 | UGC08058 | 08 13 56 | 51.0 | 415.3 | -4.7 | | -64.4 | -18 | 4700 | No stop |
| 13 48 00 | --- | 08 17 37 | 51.5 | 415.6 | -4.7 | | -64.9 | 202 | 4728 | 13 44 21 |
| 13 48 00 | J1302+5748 | 08 17 37 | 51.1 | 413.7 | -4.8 | | -65.0 | -17 | 4728 | No stop |
| 13 49 00 | --- | 08 18 37 | 51.2 | 413.8 | -4.7 | | -65.1 | 43 | 4736 | 13 48 01 |
| 13 49 40 | UGC08058 | 08 19 17 | 51.7 | 415.8 | -4.6 | | -65.1 | 22 | 4736 | 13 49 40 |
| 13 53 20 | --- | 08 22 58 | 52.2 | 416.1 | -4.6 | | -65.6 | 220 | 4764 | 13 49 41 |
| 13 53 20 | J1302+5748 | 08 22 58 | 51.7 | 414.2 | -4.7 | | -65.8 | -18 | 4764 | No stop |
| 13 54 20 | --- | 08 23 58 | 51.9 | 414.2 | -4.7 | | -65.9 | 42 | 4772 | 13 53 21 |
| 13 55 00 | UGC08058 | 08 24 38 | 52.4 | 416.3 | -4.5 | | -65.8 | 22 | 4772 | 13 55 00 |
| 13 58 40 | --- | 08 28 18 | 52.8 | 416.6 | -4.5 | | -66.3 | 220 | 4800 | 13 55 01 |
| 13 58 40 | J1302+5748 | 08 28 18 | 52.4 | 414.6 | -4.6 | | -66.5 | -18 | 4800 | No stop |
| 13 59 40 | --- | 08 29 19 | 52.5 | 414.7 | -4.6 | | -66.7 | 42 | 4808 | 13 58 41 |
| 13 59 40 | UGC08058 | 08 29 19 | 53.0 | 416.7 | -4.5 | | -66.5 | -18 | 4808 | No stop |
| 14 03 20 | --- | 08 32 59 | 53.4 | 417.0 | -4.4 | | -67.0 | 202 | 4836 | 13 59 41 |
| 14 03 20 | J1302+5748 | 08 32 59 | 53.0 | 415.0 | -4.5 | | -67.2 | -18 | 4836 | No stop |
| 14 04 20 | --- | 08 33 59 | 53.1 | 415.1 | -4.5 | | -67.3 | 42 | 4844 | 14 03 21 |
| 14 05 00 | UGC08058 | 08 34 39 | 53.6 | 417.2 | -4.4 | | -67.2 | 22 | 4844 | 14 05 00 |
| 14 08 40 | --- | 08 38 20 | 54.1 | 417.5 | -4.3 | | -67.7 | 220 | 4872 | 14 05 01 |
| 14 08 40 | J1302+5748 | 08 38 20 | 53.6 | 415.5 | -4.4 | | -68.0 | -18 | 4872 | No stop |
| 14 09 40 | --- | 08 39 20 | 53.7 | 415.6 | -4.4 | | -68.1 | 42 | 4879 | 14 08 41 |
| 14 10 20 | UGC08058 | 08 40 00 | 54.3 | 417.7 | -4.3 | | -67.9 | 22 | 4879 | 14 10 20 |
| 14 14 00 | --- | 08 43 41 | 54.8 | 418.0 | -4.2 | | -68.4 | 220 | 4908 | 14 10 21 |
| 14 14 00 | J1302+5748 | 08 43 41 | 54.3 | 415.9 | -4.3 | | -68.7 | -18 | 4908 | No stop |
| 14 15 00 | --- | 08 44 41 | 54.4 | 416.0 | -4.3 | | -68.9 | 42 | 4915 | 14 14 01 |
| 14 15 00 | UGC08058 | 08 44 41 | 54.9 | 418.1 | -4.2 | | -68.6 | -18 | 4915 | No stop |
| 14 18 40 | --- | 08 48 22 | 55.4 | 418.4 | -4.1 | | -69.1 | 202 | 4944 | 14 15 01 |

Schedule for TORUN (Code Tr ) Page 19

LIRGI - Source group 1 - Run d

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 14 18 40 | J1302+5748 | 08 48 22 | 54.9 | 416.3 | -4.3 | | -69.4 | -18 | 4944 | No stop |
| 14 19 40 | --- | 08 49 22 | 55.0 | 416.4 | -4.2 | | -69.5 | 42 | 4951 | 14 18 41 |
| 14 20 20 | UGC08058 | 08 50 02 | 55.6 | 418.5 | -4.1 | | -69.3 | 22 | 4951 | 14 20 20 |
| 14 24 00 | --- | 08 53 43 | 56.1 | 418.9 | -4.1 | | -69.8 | 220 | 4979 | 14 20 21 |
| 14 24 00 | J1302+5748 | 08 53 43 | 55.5 | 416.7 | -4.2 | | -70.2 | -18 | 4979 | No stop |
| 14 25 00 | --- | 08 54 43 | 55.7 | 416.8 | -4.1 | | -70.3 | 42 | 4987 | 14 24 01 |
| 14 25 40 | UGC08058 | 08 55 23 | 56.3 | 419.0 | -4.0 | | -70.1 | 22 | 4987 | 14 25 40 |
| 14 29 20 | --- | 08 59 03 | 56.7 | 419.3 | -4.0 | | -70.6 | 220 | 5015 | 14 25 41 |
| 14 29 20 | J1302+5748 | 08 59 03 | 56.2 | 417.2 | -4.1 | | -71.0 | -18 | 5015 | No stop |
| 14 30 20 | --- | 09 00 04 | 56.3 | 417.2 | -4.1 | | -71.1 | 42 | 5023 | 14 29 21 |
| 14 30 20 | UGC08058 | 09 00 04 | 56.9 | 419.4 | -3.9 | | -70.7 | -18 | 5023 | No stop |
| 14 34 00 | --- | 09 03 44 | 57.3 | 419.7 | -3.9 | | -71.2 | 202 | 5051 | 14 30 21 |
| 14 34 00 | J1302+5748 | 09 03 44 | 56.8 | 417.5 | -4.0 | | -71.6 | -18 | 5051 | No stop |
| 14 35 00 | --- | 09 04 44 | 56.9 | 417.6 | -4.0 | | -71.8 | 42 | 5059 | 14 34 01 |
| 14 35 40 | UGC08058 | 09 05 25 | 57.6 | 419.8 | -3.9 | | -71.5 | 22 | 5059 | 14 35 40 |
| 14 39 20 | --- | 09 09 05 | 58.0 | 420.1 | -3.8 | | -72.0 | 220 | 5087 | 14 35 41 |
| 14 39 20 | J1302+5748 | 09 09 05 | 57.5 | 417.9 | -3.9 | | -72.4 | -18 | 5087 | No stop |
| 14 40 20 | --- | 09 10 05 | 57.6 | 418.0 | -3.9 | | -72.6 | 42 | 5095 | 14 39 21 |
| 14 41 00 | UGC08058 | 09 10 45 | 58.3 | 420.3 | -3.8 | | -72.2 | 22 | 5095 | 14 41 00 |
| 14 44 40 | --- | 09 14 26 | 58.7 | 420.5 | -3.7 | | -72.7 | 220 | 5123 | 14 41 01 |
| 14 44 40 | J1302+5748 | 09 14 26 | 58.2 | 418.3 | -3.8 | | -73.2 | -18 | 5123 | No stop |
| 14 45 40 | --- | 09 15 26 | 58.3 | 418.4 | -3.8 | | -73.4 | 42 | 5131 | 14 44 41 |
| 14 45 40 | UGC08058 | 09 15 26 | 58.9 | 420.6 | -3.7 | | -72.9 | -18 | 5131 | No stop |
| 14 49 20 | --- | 09 19 07 | 59.4 | 420.9 | -3.6 | | -73.4 | 202 | 5159 | 14 45 41 |
| 14 49 20 | J1302+5748 | 09 19 07 | 58.8 | 418.7 | -3.7 | | -73.9 | -18 | 5159 | No stop |
| 14 50 20 | --- | 09 20 07 | 58.9 | 418.7 | -3.7 | | -74.1 | 42 | 5167 | 14 49 21 |
| 14 51 00 | UGC08058 | 09 20 47 | 59.6 | 421.0 | -3.6 | | -73.6 | 22 | 5167 | 14 51 00 |
| 14 54 40 | --- | 09 24 28 | 60.1 | 421.3 | -3.5 | | -74.2 | 220 | 5195 | 14 51 01 |
| 14 54 40 | J1302+5748 | 09 24 28 | 59.4 | 419.0 | -3.7 | | -74.7 | -18 | 5195 | No stop |
| 14 55 40 | --- | 09 25 28 | 59.6 | 419.1 | -3.6 | | -74.9 | 42 | 5203 | 14 54 41 |
| 14 56 20 | UGC08058 | 09 26 08 | 60.3 | 421.4 | -3.5 | | -74.4 | 21 | 5203 | 14 56 20 |
| 15 00 00 | --- | 09 29 49 | 60.8 | 421.7 | -3.5 | | -74.9 | 220 | 5231 | 14 56 21 |

```
SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess214.C1024
 --- WARNING ---  This group does not match an entry in the frequency catalog.
                  This might be ok because the catalog is not complete.
                  But be very careful to be sure that the setup is correct.

   Setup group:   12         Station: TORUN            Total bit rate:  1024
   Format: MARK5B            Bits per sample: 2        Sample rate: 32.000
   Number of channels: 16    DBE type:                 Speedup factor:   1.00

   Disk used to record data.

   1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
             4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
   Net SB=         L         L         U         U         L         L         U         U
                   L         L         U         U         L         L         U         U
   IF SB =         U         U         U         U         U         U         U         U
                   U         U         U         U         U         U         U         U
   Pol.  =      RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
   BBC   =         1         5         1         5         2         6         2         6
                   3         7         3         7         4         8         4         8
   BBC SB=         L         L         U         U         L         L         U         U
                   L         L         U         U         L         L         U         U
   IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                  A1        B1        A1        B1        A1        B1        A1        B1

  The following frequency sets based on these setups were used.

   Frequency Set:   6  Setup file default.
   LO sum=   4942.49  4942.49  4942.49  4942.49  4974.49  4974.49  4974.49  4974.49
             5006.49  5006.49  5006.49  5006.49  5038.49  5038.49  5038.49  5038.49
   BBC fr=    742.49   742.49   742.49   742.49   774.49   774.49   774.49   774.49
              806.49   806.49   806.49   806.49   838.49   838.49   838.49   838.49
   Bandwd=     16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
               16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
    Matching frequency sets:   6

   Track assignments are:
    track1=   2,  4,  6,  8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
    barrel=roll_off



 POSITIONS OF SOURCES USED IN RECORDING SCANS

   Source                        Source position (RA/Dec)                        Error
                        (B1950)            (J2000)            (Date)            (mas)

 * NGC0695           01 48 27.865737   * 01 51 14.360000     01 52 02.299366       0.00
                     22 20 04.49740    * 22 34 53.60000      22 39 00.07702        0.00

 * J0152+2207        01 49 31.744135   * 01 52 18.059046     01 53 05.936962       0.00
                     21 52 20.74791    * 22 07 07.69979      22 11 13.63959        0.00

 * VV250A            13 13 41.827997   * 13 15 34.960000     13 16 08.185677       0.00
                     62 23 17.94084    * 62 07 28.80000      62 03 10.17021        0.00
```

| | | | | |
|---|---|---|---|---|
| * J1302+5748 | 13 00 47.131441 | * 13 02 52.465277 | 13 03 29.088027 | 0.00 |
| | 58 04 43.18811 | * 57 48 37.60932 | 57 44 13.35868 | 0.00 |
| * IRASF17132 | 17 13 13.492841 | * 17 14 19.790000 | 17 14 41.204375 | 0.00 |
| | 53 13 49.22408 | * 53 10 28.60000 | 53 09 39.02372 | 0.00 |
| * J1740+5211 | 17 39 29.003552 | * 17 40 36.977849 | 17 40 58.903829 | 0.00 |
| | 52 13 10.43849 | * 52 11 43.40743 | 52 11 25.28859 | 0.00 |
| * NGC6670B | 18 32 54.385680 | * 18 33 34.300000 | 18 33 48.578485 | 0.00 |
| | 59 50 53.33524 | * 59 53 18.20000 | 59 54 03.36279 | 0.00 |
| * J1824+5651 | 18 23 14.951499 | * 18 24 07.068377 | 18 24 24.684815 | 0.00 |
| | 56 49 18.07202 | * 56 51 01.49083 | 56 51 35.55114 | 0.00 |
| * NGC7674 | 23 25 24.417983 | * 23 27 56.720000 | 23 28 41.161231 | 0.00 |
| | 08 30 12.56310 | * 08 46 44.10000 | 08 51 30.03066 | 0.00 |
| * J2327+0940 | 23 25 01.451380 | * 23 27 33.580562 | 23 28 17.984876 | 0.00 |
| | 09 23 38.17562 | * 09 40 09.46273 | 09 44 55.03536 | 0.00 |
| * UGC08058 | 12 54 05.003420 | * 12 56 14.240000 | 12 56 51.925769 | 0.00 |
| | 57 08 38.04347 | * 56 52 25.10000 | 56 47 58.44714 | 0.00 |
| J2253+1608 | 22 51 29.519738 | * 22 53 57.747937 | 22 54 41.286612 | 0.68 |
| * 3C454.3 | 15 52 54.34810 | * 16 08 53.56093 | 16 13 29.19843 | 0.72 |

EFFECT OF SOLAR CORONA

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) |
|---|---|
| NGC0695 | 46.3 |
| J0152+2207 | 46.1 |
| VV250A | 82.7 |
| J1302+5748 | 84.0 |
| IRASF17132 | 103.8 |
| J1740+5211 | 104.6 |
| NGC6670B | 95.5 |
| J1824+5651 | 98.8 |
| NGC7674 | 83.2 |
| J2327+0940 | 82.9 |
| UGC08058 | 83.8 |
| 3C454.3 | 88.0 |

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
that the Sun will cause amplitude reductions on the longest VLBA baselines
at a solar distance of 60deg F^(-0.6) where F is in GHz.
For common VLBI bands, this is:

| | |
|---|---|
| 327 MHz | 117. deg |
| 610 MHz | 81. deg |
| 1.6 GHz | 45. deg |
| 2.3 GHz | 36. deg |
| 5.0 GHz | 23. deg |
| 8.4 GHz | 17. deg |
| 15.0 GHz | 12. deg |
| 22.0 GHz | 9. deg |
| 43.0 GHz | 6. deg |

# n14c2tr

NETWORK MONITORING EXPERIMENT

PI: *Ciriaco Goddi*

Address: JIVE Postbus 2 7990 AA Dwingeloo The Netherlands
Phone: +31-521-596548 EMAIL: goddi@jive.nl
Phone during observation: +31-521-596548

Notes: 6cm NME and 4 ftp fringe test for session 2/2014
512 Mbps, L+R, 2-bit sampling, 16 MHz filters (USB-only mode)

COVER LETTER:

This is the schedule for the 6cm NME and ftp fringe-test on 10 Jun 2014
involving 14 antennas: Eb Wb Jb2 Cm On25 Nt Tr Sv Zc Bd Sh T6 Hh Ys (Yd, Td).
Stations testing their new DBBC backends are also included:
YS_DBBC (Yd) and TM_DBBC (Td).
The NME uses a USB-only/16MHz setup with 512 Mbps.

The schedule consists of:
- long integrations on strong calibrators (3C286 and 3C345) for ftp-fringe tests;
- linear polarization checks using polarized calibrators 3C286 and J1310+3220;
- D-terms check using the calibrator 3C345;
- phase-reference cycles with continuum sources (J1329+3154 and J1640+3946) as targets.

Four ftp-fringe tests are scheduled throughout the experiment:

16:09:58 (scan 2, 2 sec, 3C286)

17:11:58 (scan 22, 2 sec, 3C286)

18:04:58 (scan 60, 2 sec, 3C345)

18:57:58 (scan 98, 2 sec, 3C345)

Please make sure that the autoftp is set up correctly. Thanks!

See you on Skype group chat
and
Good luck with the session!

Ciriaco
Skype account: ciriaco.goddi

Schedule for TORUN (Code Tr ) Page 2

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| Next scan frequencies: | | | 4958.49 | 4958.49 | 4974.49 | 4974.49 | 4990.49 | 4990.49 | 5006.49 | 5006.49 |
| Next BBC frequencies: | | | 758.49 | 758.49 | 774.49 | 774.49 | 790.49 | 790.49 | 806.49 | 806.49 |
| Next scan bandwidths: | | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 |
| 16 00 00 | 3C286 | 10 29 58 | 50.2 | 106.3 | -3.0 | | -42.0 | 0 | 0 | 16 00 00 |
| 16 05 00 | --- | 10 34 59 | 50.9 | 107.5 | -2.9 | | -41.6 | 300 | 19 | 16 00 01 |
| 16 06 00 | 3C286 | 10 35 59 | 51.1 | 107.8 | -2.9 | | -41.5 | 54 | 19 | 16 06 00 |
| 16 11 00 | --- | 10 41 00 | 51.8 | 109.1 | -2.8 | | -41.2 | 300 | 39 | 16 06 01 |
| 16 12 00 | 3C286 | 10 42 00 | 51.9 | 109.4 | -2.8 | | -41.1 | 54 | 39 | 16 12 00 |
| 16 22 00 | --- | 10 52 02 | 53.3 | 112.1 | -2.7 | | -40.2 | 600 | 77 | 16 12 01 |
| 16 23 00 | J1310+3220 | 10 53 02 | 57.7 | 116.2 | -2.3 | | -39.6 | 30 | 77 | 16 23 00 |
| 16 33 00 | =1308+326 | 11 03 04 | 59.0 | 119.4 | -2.1 | | -38.2 | 600 | 116 | 16 23 01 |
| 16 34 00 | J1310+3220 | 11 04 04 | 59.2 | 119.7 | -2.1 | | -38.1 | 54 | 116 | 16 34 00 |
| 16 44 00 | =1308+326 | 11 14 06 | 60.4 | 123.1 | -2.0 | | -36.5 | 600 | 155 | 16 34 01 |
| 16 45 00 | 3C286 | 11 15 06 | 56.4 | 118.8 | -2.3 | | -37.6 | 31 | 155 | 16 45 00 |
| 16 50 00 | --- | 11 20 07 | 57.1 | 120.4 | -2.2 | | -36.9 | 300 | 174 | 16 45 01 |
| 16 51 00 | 3C286 | 11 21 07 | 57.2 | 120.7 | -2.2 | | -36.8 | 54 | 174 | 16 51 00 |
| 16 52 00 | --- | 11 22 07 | 57.4 | 121.0 | -2.2 | | -36.7 | 60 | 178 | 16 51 01 |
| 16 52 00 | J1329+3154 | 11 22 07 | 58.6 | 119.8 | -2.1 | | -37.8 | -18 | 178 | No stop |
| 16 53 00 | =1327+321 | 11 23 07 | 58.8 | 120.1 | -2.1 | | -37.7 | 42 | 182 | 16 52 01 |
| 16 53 00 | 3C286 | 11 23 07 | 57.5 | 121.3 | -2.1 | | -36.5 | -18 | 182 | No stop |
| 16 54 00 | --- | 11 24 07 | 57.6 | 121.6 | -2.1 | | -36.4 | 42 | 186 | 16 53 01 |
| 16 54 00 | J1329+3154 | 11 24 07 | 58.9 | 120.5 | -2.1 | | -37.5 | -18 | 186 | No stop |
| 16 55 00 | =1327+321 | 11 25 07 | 59.0 | 120.8 | -2.1 | | -37.4 | 42 | 190 | 16 54 01 |
| 16 55 00 | 3C286 | 11 25 07 | 57.7 | 122.0 | -2.1 | | -36.2 | -18 | 190 | No stop |
| 16 56 00 | --- | 11 26 08 | 57.9 | 122.3 | -2.1 | | -36.1 | 42 | 194 | 16 55 01 |
| 16 56 00 | J1329+3154 | 11 26 08 | 59.2 | 121.1 | -2.1 | | -37.2 | -18 | 194 | No stop |
| 16 57 00 | =1327+321 | 11 27 08 | 59.3 | 121.4 | -2.1 | | -37.1 | 42 | 197 | 16 56 01 |
| 16 57 00 | 3C286 | 11 27 08 | 58.0 | 122.6 | -2.1 | | -35.9 | -18 | 197 | No stop |
| 16 58 00 | --- | 11 28 08 | 58.1 | 123.0 | -2.1 | | -35.8 | 42 | 201 | 16 57 01 |
| 16 58 00 | J1329+3154 | 11 28 08 | 59.4 | 121.8 | -2.0 | | -36.9 | -18 | 201 | No stop |
| 16 59 00 | =1327+321 | 11 29 08 | 59.5 | 122.1 | -2.0 | | -36.8 | 42 | 205 | 16 58 01 |

Schedule for TORUN (Code Tr ) Page 3

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 16 59 00 | 3C286 | 11 29 08 | 58.3 | 123.3 | -2.0 | | -35.6 | -18 | 205 | No stop |
| 17 00 00 | --- | 11 30 08 | 58.4 | 123.6 | -2.0 | | -35.4 | 42 | 209 | 16 59 01 |
| 17 00 00 | J1329+3154 | 11 30 08 | 59.7 | 122.5 | -2.0 | | -36.6 | -18 | 209 | No stop |
| 17 01 00 | =1327+321 | 11 31 08 | 59.8 | 122.8 | -2.0 | | -36.5 | 42 | 213 | 17 00 01 |
| 17 01 00 | 3C286 | 11 31 08 | 58.5 | 124.0 | -2.0 | | -35.3 | -18 | 213 | No stop |
| 17 02 00 | --- | 11 32 09 | 58.6 | 124.3 | -2.0 | | -35.1 | 42 | 217 | 17 01 01 |
| 17 02 00 | J1329+3154 | 11 32 09 | 59.9 | 123.1 | -2.0 | | -36.3 | -18 | 217 | No stop |
| 17 03 00 | =1327+321 | 11 33 09 | 60.0 | 123.5 | -2.0 | | -36.1 | 42 | 221 | 17 02 01 |
| 17 04 00 | 3C286 | 11 34 09 | 58.9 | 125.0 | -2.0 | | -34.8 | 42 | 221 | 17 04 00 |
| 17 05 00 | --- | 11 35 09 | 59.0 | 125.3 | -1.9 | | -34.6 | 60 | 225 | 17 04 01 |
| 17 05 00 | J1329+3154 | 11 35 09 | 60.3 | 124.2 | -1.9 | | -35.8 | -18 | 225 | No stop |
| 17 06 00 | =1327+321 | 11 36 09 | 60.4 | 124.5 | -1.9 | | -35.6 | 42 | 228 | 17 05 01 |
| 17 06 00 | 3C286 | 11 36 09 | 59.1 | 125.7 | -1.9 | | -34.5 | -18 | 228 | No stop |
| 17 07 00 | --- | 11 37 09 | 59.2 | 126.0 | -1.9 | | -34.3 | 42 | 232 | 17 06 01 |
| 17 08 00 | 3C286 | 11 38 10 | 59.4 | 126.4 | -1.9 | | -34.1 | 53 | 232 | 17 08 00 |
| 17 13 00 | --- | 11 43 10 | 60.0 | 128.2 | -1.8 | | -33.2 | 300 | 252 | 17 08 01 |
| 17 17 00 | 3C345 | 11 47 11 | 39.7 | 73.7 | -4.9 | | -48.6 | 115 | 252 | 17 17 00 |
| 17 18 00 | --- | 11 48 11 | 39.8 | 73.9 | -4.9 | | -48.7 | 60 | 255 | 17 17 01 |
| 17 18 00 | J1640+3946 | 11 48 11 | 40.1 | 74.3 | -4.9 | | -48.8 | -12 | 255 | No stop |
| 17 19 00 | =1638+398 | 11 49 11 | 40.3 | 74.5 | -4.9 | | -48.8 | 48 | 259 | 17 18 01 |
| 17 19 00 | 3C345 | 11 49 11 | 40.0 | 74.1 | -4.9 | | -48.7 | -12 | 259 | No stop |
| 17 20 00 | --- | 11 50 12 | 40.1 | 74.2 | -4.9 | | -48.8 | 48 | 263 | 17 19 01 |
| 17 20 00 | J1640+3946 | 11 50 12 | 40.4 | 74.7 | -4.8 | | -48.9 | -12 | 263 | No stop |
| 17 21 00 | =1638+398 | 11 51 12 | 40.6 | 74.8 | -4.8 | | -48.9 | 48 | 267 | 17 20 01 |
| 17 21 00 | 3C345 | 11 51 12 | 40.2 | 74.4 | -4.9 | | -48.8 | -12 | 267 | No stop |
| 17 22 00 | --- | 11 52 12 | 40.4 | 74.6 | -4.9 | | -48.9 | 48 | 271 | 17 21 01 |
| 17 22 00 | J1640+3946 | 11 52 12 | 40.7 | 75.0 | -4.8 | | -49.0 | -12 | 271 | No stop |
| 17 23 00 | =1638+398 | 11 53 12 | 40.9 | 75.2 | -4.8 | | -49.0 | 48 | 275 | 17 22 01 |
| 17 23 00 | 3C345 | 11 53 12 | 40.5 | 74.7 | -4.8 | | -48.9 | -12 | 275 | No stop |
| 17 24 00 | --- | 11 54 12 | 40.7 | 74.9 | -4.8 | | -49.0 | 48 | 279 | 17 23 01 |

Schedule for TORUN (Code Tr ) Page 4

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 17 24 00 | J1640+3946 | 11 54 12 | 41.0 | 75.3 | -4.8 | | -49.1 | -12 | 279 | No stop |
| 17 25 00 | =1638+398 | 11 55 12 | 41.2 | 75.5 | -4.8 | | -49.1 | 48 | 283 | 17 24 01 |
| 17 25 00 | 3C345 | 11 55 12 | 40.8 | 75.1 | -4.8 | | -49.0 | -12 | 283 | No stop |
| 17 26 00 | --- | 11 56 12 | 41.0 | 75.2 | -4.8 | | -49.1 | 48 | 286 | 17 25 01 |
| 17 26 00 | J1640+3946 | 11 56 12 | 41.3 | 75.7 | -4.7 | | -49.2 | -12 | 286 | No stop |
| 17 27 00 | =1638+398 | 11 57 13 | 41.5 | 75.8 | -4.7 | | -49.2 | 48 | 290 | 17 26 01 |
| 17 27 00 | 3C345 | 11 57 13 | 41.1 | 75.4 | -4.8 | | -49.1 | -12 | 290 | No stop |
| 17 28 00 | --- | 11 58 13 | 41.3 | 75.6 | -4.8 | | -49.2 | 48 | 294 | 17 27 01 |
| 17 28 00 | J1640+3946 | 11 58 13 | 41.6 | 76.0 | -4.7 | | -49.3 | -12 | 294 | No stop |
| 17 29 00 | =1638+398 | 11 59 13 | 41.7 | 76.2 | -4.7 | | -49.3 | 48 | 298 | 17 28 01 |
| 17 30 00 | 3C345 | 12 00 13 | 41.6 | 75.9 | -4.7 | | -49.3 | 48 | 298 | 17 30 00 |
| 17 31 00 | --- | 12 01 13 | 41.7 | 76.1 | -4.7 | | -49.3 | 60 | 302 | 17 30 01 |
| 17 31 00 | J1640+3946 | 12 01 13 | 42.0 | 76.5 | -4.7 | | -49.4 | -12 | 302 | No stop |
| 17 32 00 | =1638+398 | 12 02 13 | 42.2 | 76.7 | -4.6 | | -49.5 | 48 | 306 | 17 31 01 |
| 17 32 00 | 3C345 | 12 02 13 | 41.8 | 76.2 | -4.7 | | -49.4 | -12 | 306 | No stop |
| 17 33 00 | --- | 12 03 14 | 42.0 | 76.4 | -4.7 | | -49.4 | 48 | 310 | 17 32 01 |
| 17 33 00 | J1640+3946 | 12 03 14 | 42.3 | 76.8 | -4.6 | | -49.5 | -12 | 310 | No stop |
| 17 34 00 | =1638+398 | 12 04 14 | 42.5 | 77.0 | -4.6 | | -49.6 | 48 | 314 | 17 33 01 |
| 17 34 00 | 3C345 | 12 04 14 | 42.1 | 76.6 | -4.7 | | -49.5 | -12 | 314 | No stop |
| 17 35 00 | --- | 12 05 14 | 42.3 | 76.7 | -4.6 | | -49.5 | 48 | 317 | 17 34 01 |
| 17 35 00 | J1640+3946 | 12 05 14 | 42.6 | 77.2 | -4.6 | | -49.6 | -12 | 317 | No stop |
| 17 36 00 | =1638+398 | 12 06 14 | 42.8 | 77.4 | -4.6 | | -49.7 | 48 | 321 | 17 35 01 |
| 17 36 00 | 3C345 | 12 06 14 | 42.4 | 76.9 | -4.6 | | -49.6 | -12 | 321 | No stop |
| 17 37 00 | --- | 12 07 14 | 42.6 | 77.1 | -4.6 | | -49.6 | 48 | 325 | 17 36 01 |
| 17 37 00 | J1640+3946 | 12 07 14 | 42.9 | 77.5 | -4.6 | | -49.7 | -12 | 325 | No stop |
| 17 38 00 | =1638+398 | 12 08 14 | 43.1 | 77.7 | -4.5 | | -49.7 | 48 | 329 | 17 37 01 |
| 17 38 00 | 3C345 | 12 08 14 | 42.7 | 77.2 | -4.6 | | -49.7 | -12 | 329 | No stop |
| 17 39 00 | --- | 12 09 15 | 42.9 | 77.4 | -4.6 | | -49.7 | 48 | 333 | 17 38 01 |
| 17 39 00 | J1640+3946 | 12 09 15 | 43.2 | 77.9 | -4.5 | | -49.8 | -12 | 333 | No stop |
| 17 40 00 | =1638+398 | 12 10 15 | 43.4 | 78.0 | -4.5 | | -49.8 | 48 | 337 | 17 39 01 |

Schedule for TORUN (Code Tr ) Page 5

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 17 40 00 | 3C345 | 12 10 15 | 43.0 | 77.6 | -4.6 | | -49.7 | -12 | 337 | No stop |
| 17 41 00 | --- | 12 11 15 | 43.2 | 77.8 | -4.5 | | -49.8 | 48 | 341 | 17 40 01 |
| 17 41 00 | J1640+3946 | 12 11 15 | 43.5 | 78.2 | -4.5 | | -49.9 | -12 | 341 | No stop |
| 17 42 00 | =1638+398 | 12 12 15 | 43.7 | 78.4 | -4.5 | | -49.9 | 48 | 344 | 17 41 01 |
| 17 43 00 | 3C345 | 12 13 15 | 43.5 | 78.1 | -4.5 | | -49.9 | 48 | 344 | 17 43 00 |
| 17 44 00 | --- | 12 14 15 | 43.6 | 78.3 | -4.5 | | -49.9 | 60 | 348 | 17 43 01 |
| 17 44 00 | J1640+3946 | 12 14 15 | 44.0 | 78.7 | -4.4 | | -50.0 | -12 | 348 | No stop |
| 17 45 00 | =1638+398 | 12 15 16 | 44.1 | 78.9 | -4.4 | | -50.0 | 48 | 352 | 17 44 01 |
| 17 45 00 | 3C345 | 12 15 16 | 43.8 | 78.4 | -4.5 | | -50.0 | -12 | 352 | No stop |
| 17 46 00 | --- | 12 16 16 | 43.9 | 78.6 | -4.5 | | -50.0 | 48 | 356 | 17 45 01 |
| 17 46 00 | J1640+3946 | 12 16 16 | 44.2 | 79.1 | -4.4 | | -50.1 | -12 | 356 | No stop |
| 17 47 00 | =1638+398 | 12 17 16 | 44.4 | 79.2 | -4.4 | | -50.1 | 48 | 360 | 17 46 01 |
| 17 47 00 | 3C345 | 12 17 16 | 44.0 | 78.8 | -4.4 | | -50.0 | -12 | 360 | No stop |
| 17 48 00 | --- | 12 18 16 | 44.2 | 79.0 | -4.4 | | -50.1 | 48 | 364 | 17 47 01 |
| 17 48 00 | J1640+3946 | 12 18 16 | 44.5 | 79.4 | -4.4 | | -50.2 | -12 | 364 | No stop |
| 17 49 00 | =1638+398 | 12 19 16 | 44.7 | 79.6 | -4.4 | | -50.2 | 48 | 368 | 17 48 01 |
| 17 49 00 | 3C345 | 12 19 16 | 44.3 | 79.1 | -4.4 | | -50.1 | -12 | 368 | No stop |
| 17 50 00 | --- | 12 20 16 | 44.5 | 79.3 | -4.4 | | -50.2 | 48 | 372 | 17 49 01 |
| 17 50 00 | J1640+3946 | 12 20 16 | 44.8 | 79.8 | -4.3 | | -50.2 | -12 | 372 | No stop |
| 17 51 00 | =1638+398 | 12 21 17 | 45.0 | 79.9 | -4.3 | | -50.3 | 48 | 375 | 17 50 01 |
| 17 51 00 | 3C345 | 12 21 17 | 44.6 | 79.5 | -4.4 | | -50.2 | -12 | 375 | No stop |
| 17 52 00 | --- | 12 22 17 | 44.8 | 79.6 | -4.4 | | -50.2 | 48 | 379 | 17 51 01 |
| 17 52 00 | J1640+3946 | 12 22 17 | 45.1 | 80.1 | -4.3 | | -50.3 | -12 | 379 | No stop |
| 17 53 00 | =1638+398 | 12 23 17 | 45.3 | 80.3 | -4.3 | | -50.3 | 48 | 383 | 17 52 01 |
| 17 53 00 | 3C345 | 12 23 17 | 44.9 | 79.8 | -4.3 | | -50.3 | -12 | 383 | No stop |
| 17 54 00 | --- | 12 24 17 | 45.1 | 80.0 | -4.3 | | -50.3 | 48 | 387 | 17 53 01 |
| 17 54 00 | J1640+3946 | 12 24 17 | 45.4 | 80.5 | -4.3 | | -50.4 | -12 | 387 | No stop |
| 17 55 00 | =1638+398 | 12 25 17 | 45.6 | 80.6 | -4.3 | | -50.4 | 48 | 391 | 17 54 01 |
| 17 56 00 | 3C345 | 12 26 17 | 45.4 | 80.3 | -4.3 | | -50.4 | 48 | 391 | 17 56 00 |
| 18 01 00 | --- | 12 31 18 | 46.1 | 81.2 | -4.2 | | -50.6 | 300 | 410 | 17 56 01 |
| 18 02 00 | 3C345 | 12 32 18 | 46.3 | 81.4 | -4.2 | | -50.6 | 54 | 410 | 18 02 00 |
| 18 07 00 | --- | 12 37 19 | 47.0 | 82.3 | -4.1 | | -50.7 | 300 | 430 | 18 02 01 |

Schedule for TORUN (Code Tr ) Page 6

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 18 09 00 | 3C345 | 12 39 20 | 47.3 | 82.6 | -4.1 | | -50.8 | 114 | 430 | 18 09 00 |
| 18 13 00 | --- | 12 43 20 | 47.9 | 83.4 | -4.0 | | -50.9 | 240 | 445 | 18 09 01 |
| 18 15 00 | 3C345 | 12 45 21 | 48.2 | 83.7 | -4.0 | | -51.0 | 114 | 445 | 18 15 00 |
| 18 16 00 | --- | 12 46 21 | 48.4 | 83.9 | -4.0 | | -51.0 | 60 | 449 | 18 15 01 |
| 18 16 00 | J1640+3946 | 12 46 21 | 48.7 | 84.4 | -3.9 | | -51.0 | -12 | 449 | No stop |
| 18 17 00 | =1638+398 | 12 47 21 | 48.9 | 84.6 | -3.9 | | -51.0 | 48 | 453 | 18 16 01 |
| 18 17 00 | 3C345 | 12 47 21 | 48.5 | 84.1 | -3.9 | | -51.0 | -12 | 453 | No stop |
| 18 18 00 | --- | 12 48 21 | 48.7 | 84.3 | -3.9 | | -51.0 | 48 | 457 | 18 17 01 |
| 18 18 00 | J1640+3946 | 12 48 21 | 49.0 | 84.8 | -3.9 | | -51.1 | -12 | 457 | No stop |
| 18 19 00 | =1638+398 | 12 49 21 | 49.2 | 85.0 | -3.9 | | -51.1 | 48 | 461 | 18 18 01 |
| 18 19 00 | 3C345 | 12 49 21 | 48.8 | 84.5 | -3.9 | | -51.1 | -12 | 461 | No stop |
| 18 20 00 | --- | 12 50 21 | 49.0 | 84.6 | -3.9 | | -51.1 | 48 | 464 | 18 19 01 |
| 18 20 00 | J1640+3946 | 12 50 21 | 49.3 | 85.1 | -3.8 | | -51.1 | -12 | 464 | No stop |
| 18 21 00 | =1638+398 | 12 51 22 | 49.5 | 85.3 | -3.8 | | -51.1 | 48 | 468 | 18 20 01 |
| 18 21 00 | 3C345 | 12 51 22 | 49.1 | 84.8 | -3.9 | | -51.1 | -12 | 468 | No stop |
| 18 22 00 | --- | 12 52 22 | 49.3 | 85.0 | -3.9 | | -51.1 | 48 | 472 | 18 21 01 |
| 18 22 00 | J1640+3946 | 12 52 22 | 49.6 | 85.5 | -3.8 | | -51.1 | -12 | 472 | No stop |
| 18 23 00 | =1638+398 | 12 53 22 | 49.8 | 85.7 | -3.8 | | -51.2 | 48 | 476 | 18 22 01 |
| 18 23 00 | 3C345 | 12 53 22 | 49.4 | 85.2 | -3.8 | | -51.1 | -12 | 476 | No stop |
| 18 24 00 | --- | 12 54 22 | 49.6 | 85.4 | -3.8 | | -51.2 | 48 | 480 | 18 23 01 |
| 18 24 00 | J1640+3946 | 12 54 22 | 49.9 | 85.9 | -3.8 | | -51.2 | -12 | 480 | No stop |
| 18 25 00 | =1638+398 | 12 55 22 | 50.1 | 86.1 | -3.8 | | -51.2 | 48 | 484 | 18 24 01 |
| 18 25 00 | 3C345 | 12 55 22 | 49.7 | 85.6 | -3.8 | | -51.2 | -12 | 484 | No stop |
| 18 26 00 | --- | 12 56 22 | 49.9 | 85.8 | -3.8 | | -51.2 | 48 | 488 | 18 25 01 |
| 18 26 00 | J1640+3946 | 12 56 22 | 50.2 | 86.3 | -3.7 | | -51.2 | -12 | 488 | No stop |
| 18 27 00 | =1638+398 | 12 57 23 | 50.4 | 86.5 | -3.7 | | -51.2 | 48 | 492 | 18 26 01 |
| 18 28 00 | 3C345 | 12 58 23 | 50.2 | 86.1 | -3.8 | | -51.2 | 48 | 492 | 18 28 00 |
| 18 29 00 | --- | 12 59 23 | 50.3 | 86.3 | -3.7 | | -51.2 | 60 | 495 | 18 28 01 |
| 18 29 00 | J1640+3946 | 12 59 23 | 50.7 | 86.8 | -3.7 | | -51.2 | -12 | 495 | No stop |
| 18 30 00 | =1638+398 | 13 00 23 | 50.8 | 87.0 | -3.7 | | -51.3 | 48 | 499 | 18 29 01 |
| 18 30 00 | 3C345 | 13 00 23 | 50.5 | 86.5 | -3.7 | | -51.3 | -12 | 499 | No stop |
| 18 31 00 | --- | 13 01 23 | 50.6 | 86.7 | -3.7 | | -51.3 | 48 | 503 | 18 30 01 |

Schedule for TORUN (Code Tr ) Page 7

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 18 31 00 | J1640+3946 | 13 01 23 | 51.0 | 87.2 | -3.7 | | -51.3 | -12 | 503 | No stop |
| 18 32 00 | =1638+398 | 13 02 23 | 51.1 | 87.4 | -3.6 | | -51.3 | 48 | 507 | 18 31 01 |
| 18 32 00 | 3C345 | 13 02 23 | 50.8 | 86.9 | -3.7 | | -51.3 | -12 | 507 | No stop |
| 18 33 00 | --- | 13 03 23 | 50.9 | 87.1 | -3.7 | | -51.3 | 48 | 511 | 18 32 01 |
| 18 33 00 | J1640+3946 | 13 03 23 | 51.3 | 87.6 | -3.6 | | -51.3 | -12 | 511 | No stop |
| 18 34 00 | =1638+398 | 13 04 24 | 51.4 | 87.8 | -3.6 | | -51.3 | 48 | 515 | 18 33 01 |
| 18 34 00 | 3C345 | 13 04 24 | 51.1 | 87.3 | -3.7 | | -51.3 | -12 | 515 | No stop |
| 18 35 00 | --- | 13 05 24 | 51.2 | 87.5 | -3.6 | | -51.3 | 48 | 519 | 18 34 01 |
| 18 35 00 | J1640+3946 | 13 05 24 | 51.6 | 88.0 | -3.6 | | -51.3 | -12 | 519 | No stop |
| 18 36 00 | =1638+398 | 13 06 24 | 51.7 | 88.2 | -3.6 | | -51.3 | 48 | 523 | 18 35 01 |
| 18 36 00 | 3C345 | 13 06 24 | 51.4 | 87.7 | -3.6 | | -51.3 | -12 | 523 | No stop |
| 18 37 00 | --- | 13 07 24 | 51.5 | 87.9 | -3.6 | | -51.3 | 48 | 526 | 18 36 01 |
| 18 37 00 | J1640+3946 | 13 07 24 | 51.9 | 88.4 | -3.6 | | -51.3 | -12 | 526 | No stop |
| 18 38 00 | =1638+398 | 13 08 24 | 52.0 | 88.6 | -3.5 | | -51.3 | 48 | 530 | 18 37 01 |
| 18 38 00 | 3C345 | 13 08 24 | 51.7 | 88.0 | -3.6 | | -51.4 | -12 | 530 | No stop |
| 18 39 00 | --- | 13 09 24 | 51.8 | 88.2 | -3.6 | | -51.4 | 48 | 534 | 18 38 01 |
| 18 39 00 | J1640+3946 | 13 09 24 | 52.2 | 88.8 | -3.5 | | -51.3 | -12 | 534 | No stop |
| 18 40 00 | =1638+398 | 13 10 25 | 52.3 | 89.0 | -3.5 | | -51.3 | 48 | 538 | 18 39 01 |
| 18 41 00 | 3C345 | 13 11 25 | 52.1 | 88.6 | -3.5 | | -51.4 | 48 | 538 | 18 41 00 |
| 18 42 00 | --- | 13 12 25 | 52.3 | 88.8 | -3.5 | | -51.4 | 60 | 542 | 18 41 01 |
| 18 42 00 | J1640+3946 | 13 12 25 | 52.6 | 89.4 | -3.5 | | -51.4 | -12 | 542 | No stop |
| 18 43 00 | =1638+398 | 13 13 25 | 52.8 | 89.6 | -3.5 | | -51.4 | 48 | 546 | 18 42 01 |
| 18 43 00 | 3C345 | 13 13 25 | 52.4 | 89.0 | -3.5 | | -51.4 | -12 | 546 | No stop |
| 18 44 00 | --- | 13 14 25 | 52.6 | 89.2 | -3.5 | | -51.4 | 48 | 550 | 18 43 01 |
| 18 44 00 | J1640+3946 | 13 14 25 | 52.9 | 89.8 | -3.4 | | -51.4 | -12 | 550 | No stop |
| 18 45 00 | =1638+398 | 13 15 25 | 53.1 | 90.0 | -3.4 | | -51.4 | 48 | 554 | 18 44 01 |
| 18 45 00 | 3C345 | 13 15 25 | 52.7 | 89.4 | -3.5 | | -51.4 | -12 | 554 | No stop |
| 18 46 00 | --- | 13 16 26 | 52.9 | 89.6 | -3.5 | | -51.4 | 48 | 557 | 18 45 01 |
| 18 46 00 | J1640+3946 | 13 16 26 | 53.2 | 90.2 | -3.4 | | -51.4 | -12 | 557 | No stop |
| 18 47 00 | =1638+398 | 13 17 26 | 53.4 | 90.4 | -3.4 | | -51.4 | 48 | 561 | 18 46 01 |
| 18 47 00 | 3C345 | 13 17 26 | 53.0 | 89.8 | -3.4 | | -51.4 | -12 | 561 | No stop |
| 18 48 00 | --- | 13 18 26 | 53.2 | 90.0 | -3.4 | | -51.4 | 48 | 565 | 18 47 01 |

```
Schedule for TORUN     (Code Tr )                                  Page   8
               Network Monitoring Experiment
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                  Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Tue  10 Jun 2014   Day 161 ---

18 48 00  J1640+3946   13 18 26  53.5  90.6 -3.4     -51.4   -12      565   No stop
18 49 00  =1638+398    13 19 26  53.7  90.8 -3.4     -51.4    48      569   18 48 01

18 49 00  3C345        13 19 26  53.3  90.2 -3.4     -51.4   -12      569   No stop
18 50 00  ---          13 20 26  53.5  90.4 -3.4     -51.4    48      573   18 49 01

18 50 00  J1640+3946   13 20 26  53.8  91.0 -3.3     -51.3   -12      573   No stop
18 51 00  =1638+398    13 21 26  54.0  91.2 -3.3     -51.3    48      577   18 50 01

18 51 00  3C345        13 21 26  53.6  90.6 -3.4     -51.4   -12      577   No stop
18 52 00  ---          13 22 27  53.8  90.8 -3.4     -51.4    48      581   18 51 01

18 52 00  J1640+3946   13 22 27  54.1  91.4 -3.3     -51.3   -12      581   No stop
18 53 00  =1638+398    13 23 27  54.3  91.6 -3.3     -51.3    48      584   18 52 01

18 54 00  3C345        13 24 27  54.1  91.2 -3.3     -51.4    48      584   18 54 00
19 00 00  ---          13 30 28  55.0  92.5 -3.2     -51.3   360      608   18 54 01




SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess214.C512
 --- WARNING ---  This group does not match an entry in the frequency catalog.
                  This might be ok because the catalog is not complete.
                  But be very careful to be sure that the setup is correct.

   Setup group:   12         Station: TORUN            Total bit rate:  512
   Format: MARK5B            Bits per sample: 2        Sample rate: 32.000
   Number of channels:  8    DBE type:                 Speedup factor:   1.00

   Disk used to record data.

   1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
   Net SB=         U         U         U         U         U         U         U         U
   Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
   BBC   =         1         5         2         6         3         7         4         8
   BBC SB=         U         U         U         U         U         U         U         U
   IF    =        A1        B1        A1        B1        A1        B1        A1        B1
```

The following frequency sets based on these setups were used.

Frequency Set: 7 Setup file default.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| LO sum= | 4958.49 | 4958.49 | 4974.49 | 4974.49 | 4990.49 | 4990.49 | 5006.49 | 5006.49 |
| BBC fr= | 758.49 | 758.49 | 774.49 | 774.49 | 790.49 | 790.49 | 806.49 | 806.49 |
| Bandwd= | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 |

Matching frequency sets: 7

Track assignments are:
track1= 2, 4, 6, 8, 10, 12, 14, 16
barrel=roll_off

SOURCES USED IN RECORDING SCANS -- Network Monitoring Experiment
Catalog positions marked with *.
Precession of date coordinates is based on stop time of first scan.
Names used in schedule marked with *.
Short names used in VLA and SNAP files marked with +.
Observation date used in B1950/J2000 coordinate conversion (PRECDATE): 1979.900
No adjustments are made for rates (DRA, DDEC).
Scan hours are for recording scans only.
Baseline hours are only counted for scans above horizon at both ends.

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * J1310+3220 | 13 08 07.560132 | * 13 10 28.663851 | 13 11 10.126485 | 0.12 |
| 1308+326 | 32 36 40.23870 | * 32 20 43.78277 | 32 16 16.42450 | 0.10 |
| * J1329+3154 | 13 27 34.876201 | * 13 29 52.864906 | 13 30 33.558156 | 0.12 |
| 1327+321 | 32 09 38.80938 | * 31 54 11.05448 | 31 49 52.33825 | 0.11 |
| J1331+3030 | 13 28 49.657778 | * 13 31 08.288070 | 13 31 49.185297 | 0.20 |
| * 3C286 | 30 45 58.64061 | * 30 30 32.95925 | 30 26 14.50510 | 0.19 |
| * J1640+3946 | 16 38 48.169686 | * 16 40 29.632770 | 16 41 00.765454 | 0.13 |
| 1638+398 | 39 52 30.08655 | * 39 46 46.02836 | 39 45 16.43701 | 0.10 |
| J1642+3948 | 16 41 17.606228 | * 16 42 58.809965 | 16 43 29.875793 | 0.77 |
| * 3C345 | 39 54 10.81496 | * 39 48 36.99402 | 39 47 10.28616 | 0.52 |

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) |
|---|---|
| J1310+3220 | 99.6 |
| J1329+3154 | 103.2 |
| 3C286 | 104.3 |
| J1640+3946 | 116.7 |
| 3C345 | 116.7 |

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
that the Sun will cause amplitude reductions on the longest VLBA baselines
at a solar distance of 60deg F^(-0.6) where F is in GHz.
For common VLBI bands, this is:

| | | | |
|---|---|---|---|
| 327 MHz | 117. deg | 8.4 GHz | 17. deg |
| 610 MHz | 81. deg | 15.0 GHz | 12. deg |
| 1.6 GHz | 45. deg | 22.0 GHz | 9. deg |
| 2.3 GHz | 36. deg | 43.0 GHz | 6. deg |
| 5.0 GHz | 23. deg | | |

# el048btr

## Phase-refence VLBI on NGC7479 at 6cm

PI: *Laine*

Address: Caltech/IPAC
Phone: (626) 395-5727 EMAIL: seppo@ipac.caltech.edu

Schedule for TORUN (Code Tr ) Page 2
Phase-refence VLBI on NGC7479 at 6cm
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| Next scan frequencies: | | 4942.49 | 4942.49 | 4942.49 | 4942.49 | 4974.49 | 4974.49 | 4974.49 | 4974.49 | |
| | | 5006.49 | 5006.49 | 5006.49 | 5006.49 | 5038.49 | 5038.49 | 5038.49 | 5038.49 | |
| Next BBC frequencies: | | 742.49 | 742.49 | 742.49 | 742.49 | 774.49 | 774.49 | 774.49 | 774.49 | |
| | | 806.49 | 806.49 | 806.49 | 806.49 | 838.49 | 838.49 | 838.49 | 838.49 | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | |
| | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | |
| 22 45 00 | BLLAC | 17 16 05 | 42.6 | 72.6 | -4.8 | | -50.8 | 0 | 0 | 22 45 00 |
| 22 48 00 | --- | 17 19 05 | 43.1 | 73.1 | -4.7 | | -51.0 | 180 | 23 | 22 45 01 |
| 22 53 00 | 3C454.3 | 17 24 06 | 17.3 | 85.8 | -5.5 | | -38.6 | 188 | 23 | 22 53 00 |
| 22 56 00 | --- | 17 27 07 | 17.7 | 86.4 | -5.5 | | -38.6 | 180 | 46 | 22 53 01 |
| 23 01 15 | J2310+1055 | 17 32 23 | 11.9 | 87.5 | -5.6 | | -37.7 | 277 | 46 | 23 01 15 |
| 23 02 05 | =2307+106 | 17 33 28 | 12.1 | 87.7 | -5.6 | | -37.7 | 50 | 53 | 23 01 16 |
| 23 02 05 | NGC7479 | 17 33 13 | 14.0 | 87.9 | -5.5 | | -37.9 | -21 | 53 | No stop |
| 23 06 05 | --- | 17 37 13 | 14.6 | 88.7 | -5.5 | | -37.9 | 219 | 83 | 23 02 06 |
| 23 06 05 | J2300+1037 | 17 37 13 | 14.0 | 90.7 | -5.4 | | -37.7 | -18 | 83 | No stop |
| 23 07 45 | =2257+103 | 17 38 54 | 14.2 | 91.0 | -5.4 | | -37.7 | 82 | 96 | 23 06 06 |
| 23 08 25 | J2310+1055 | 17 39 34 | 13.0 | 89.0 | -5.5 | | -37.7 | 22 | 96 | 23 08 25 |
| 23 09 15 | =2307+106 | 17 40 24 | 13.1 | 89.1 | -5.5 | | -37.7 | 50 | 103 | 23 08 26 |
| 23 09 15 | NGC7479 | 17 40 24 | 15.1 | 89.3 | -5.4 | | -37.9 | -21 | 103 | No stop |
| 23 13 15 | --- | 17 44 25 | 15.7 | 90.1 | -5.4 | | -37.9 | 219 | 133 | 23 09 16 |
| 23 13 15 | J2300+1037 | 17 44 25 | 15.0 | 92.1 | -5.3 | | -37.6 | -18 | 133 | No stop |
| 23 14 55 | =2257+103 | 17 46 05 | 15.3 | 92.5 | -5.2 | | -37.6 | 82 | 146 | 23 13 16 |
| 23 15 35 | J2310+1055 | 17 46 45 | 14.1 | 90.4 | -5.4 | | -37.7 | 22 | 146 | 23 15 35 |
| 23 16 25 | =2307+106 | 17 47 35 | 14.2 | 90.6 | -5.4 | | -37.7 | 50 | 153 | 23 15 36 |
| 23 16 25 | NGC7479 | 17 47 35 | 16.2 | 90.8 | -5.3 | | -37.9 | -21 | 153 | No stop |
| 23 20 25 | --- | 17 51 36 | 16.8 | 91.6 | -5.2 | | -37.9 | 219 | 183 | 23 16 26 |

Schedule for TORUN (Code Tr ) Page 3

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 10 Jun 2014 Day 161 --- | | | | | | | | | | |
| 23 20 25 | J2300+1037 | 17 51 36 | 16.1 | 93.6 | -5.2 | | -37.6 | -18 | 183 | No stop |
| 23 22 05 | =2257+103 | 17 53 16 | 16.4 | 93.9 | -5.1 | | -37.6 | 82 | 196 | 23 20 26 |
| 23 22 45 | J2310+1055 | 17 53 56 | 15.2 | 91.8 | -5.3 | | -37.7 | 22 | 196 | 23 22 45 |
| 23 23 35 | =2307+106 | 17 54 46 | 15.3 | 92.0 | -5.3 | | -37.7 | 50 | 203 | 23 22 46 |
| 23 23 35 | NGC7479 | 17 54 46 | 17.2 | 92.2 | -5.2 | | -37.9 | -21 | 203 | No stop |
| 23 27 35 | --- | 17 58 47 | 17.8 | 93.0 | -5.1 | | -37.9 | 219 | 233 | 23 23 36 |
| 23 27 35 | J2300+1037 | 17 58 47 | 17.2 | 95.1 | -5.0 | | -37.5 | -18 | 233 | No stop |
| 23 29 15 | =2257+103 | 18 00 27 | 17.4 | 95.4 | -5.0 | | -37.5 | 82 | 246 | 23 27 36 |
| 23 29 55 | J2310+1055 | 18 01 07 | 16.3 | 93.3 | -5.2 | | -37.6 | 22 | 246 | 23 29 55 |
| 23 30 45 | =2307+106 | 18 01 57 | 16.4 | 93.5 | -5.2 | | -37.6 | 50 | 253 | 23 29 56 |
| 23 30 45 | NGC7479 | 18 01 57 | 18.3 | 93.7 | -5.1 | | -37.8 | -21 | 253 | No stop |
| 23 34 45 | --- | 18 05 58 | 18.9 | 94.5 | -5.0 | | -37.8 | 219 | 283 | 23 30 46 |
| 23 34 45 | J2300+1037 | 18 05 58 | 18.3 | 96.5 | -4.9 | | -37.4 | -18 | 283 | No stop |
| 23 36 25 | =2257+103 | 18 07 38 | 18.5 | 96.9 | -4.9 | | -37.4 | 82 | 296 | 23 34 46 |
| 23 37 05 | J2310+1055 | 18 08 18 | 17.3 | 94.7 | -5.0 | | -37.6 | 22 | 296 | 23 37 05 |
| 23 37 55 | =2307+106 | 18 09 09 | 17.5 | 94.9 | -5.0 | | -37.6 | 50 | 303 | 23 37 06 |
| 23 37 55 | NGC7479 | 18 09 09 | 19.4 | 95.1 | -4.9 | | -37.8 | -21 | 303 | No stop |
| 23 41 55 | --- | 18 13 09 | 20.0 | 96.0 | -4.9 | | -37.7 | 219 | 333 | 23 37 56 |
| 23 41 55 | J2300+1037 | 18 13 09 | 19.3 | 98.0 | -4.8 | | -37.2 | -18 | 333 | No stop |
| 23 43 35 | =2257+103 | 18 14 50 | 19.6 | 98.4 | -4.8 | | -37.2 | 82 | 346 | 23 41 56 |
| 23 44 15 | J2310+1055 | 18 15 30 | 18.4 | 96.2 | -4.9 | | -37.5 | 22 | 346 | 23 44 15 |
| 23 45 05 | =2307+106 | 18 16 20 | 18.5 | 96.4 | -4.9 | | -37.4 | 50 | 353 | 23 44 16 |
| 23 45 05 | NGC7479 | 18 16 20 | 20.5 | 96.6 | -4.8 | | -37.6 | -21 | 353 | No stop |
| 23 49 05 | --- | 18 20 20 | 21.1 | 97.4 | -4.8 | | -37.6 | 219 | 383 | 23 45 06 |
| 23 49 05 | J2300+1037 | 18 20 20 | 20.4 | 99.5 | -4.7 | | -37.1 | -18 | 383 | No stop |
| 23 50 45 | =2257+103 | 18 22 01 | 20.7 | 99.9 | -4.7 | | -37.0 | 82 | 396 | 23 49 06 |
| 23 51 25 | J2310+1055 | 18 22 41 | 19.5 | 97.7 | -4.8 | | -37.3 | 22 | 396 | 23 51 25 |
| 23 52 15 | =2307+106 | 18 23 31 | 19.6 | 97.9 | -4.8 | | -37.3 | 50 | 403 | 23 51 26 |
| 23 52 15 | NGC7479 | 18 23 31 | 21.5 | 98.1 | -4.7 | | -37.5 | -21 | 403 | No stop |
| 23 56 15 | --- | 18 27 32 | 22.1 | 98.9 | -4.6 | | -37.4 | 219 | 433 | 23 52 16 |

Schedule for TORUN (Code Tr ) Page 4

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Start: Tue 10 Jun 2014 Day 161 -- Stop: Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 23 56 15 | J2300+1037 | 18 27 32 | 21.5 | 101.0 | -4.6 | | -36.9 | -18 | 433 | No stop |
| 23 57 55 | =2257+103 | 18 29 12 | 21.7 | 101.4 | -4.5 | | -36.8 | 82 | 446 | 23 56 16 |
| 23 58 35 | J2310+1055 | 18 29 52 | 20.5 | 99.2 | -4.7 | | -37.1 | 21 | 446 | 23 58 35 |
| 23 59 25 | =2307+106 | 18 30 42 | 20.7 | 99.4 | -4.7 | | -37.1 | 50 | 453 | 23 58 36 |
| 23 59 25 | NGC7479 | 18 30 42 | 22.6 | 99.6 | -4.6 | | -37.3 | -21 | 453 | No stop |
| 00 03 25 | --- | 18 34 43 | 23.2 | 100.5 | -4.5 | | -37.2 | 219 | 483 | 23 59 26 |
| 00 03 25 | J2300+1037 | 18 34 43 | 22.5 | 102.5 | -4.4 | | -36.6 | -18 | 483 | No stop |
| 00 05 05 | =2257+103 | 18 36 23 | 22.8 | 102.9 | -4.4 | | -36.6 | 82 | 496 | 00 03 26 |
| 00 05 45 | J2310+1055 | 18 37 03 | 21.6 | 100.7 | -4.6 | | -36.9 | 21 | 496 | 00 05 45 |
| 00 06 35 | =2307+106 | 18 37 53 | 21.7 | 100.9 | -4.6 | | -36.9 | 50 | 503 | 00 05 46 |
| 00 11 35 | 3C454.3 | 18 42 54 | 29.1 | 102.0 | -4.2 | | -37.7 | 261 | 503 | 00 11 35 |
| 00 14 35 | --- | 18 45 55 | 29.5 | 102.6 | -4.1 | | -37.6 | 180 | 526 | 00 11 36 |
| 00 19 50 | J2310+1055 | 18 51 10 | 23.7 | 103.7 | -4.3 | | -36.5 | 277 | 526 | 00 19 50 |
| 00 20 40 | =2307+106 | 18 52 16 | 23.8 | 103.9 | -4.3 | | -36.4 | 50 | 532 | 00 19 51 |
| 00 20 40 | NGC7479 | 18 52 01 | 25.7 | 104.2 | -4.2 | | -36.6 | -21 | 532 | No stop |
| 00 24 40 | --- | 18 56 01 | 26.3 | 105.0 | -4.2 | | -36.4 | 219 | 563 | 00 20 41 |
| 00 24 40 | J2300+1037 | 18 56 01 | 25.6 | 107.2 | -4.1 | | -35.7 | -18 | 563 | No stop |
| 00 26 20 | =2257+103 | 18 57 42 | 25.9 | 107.5 | -4.1 | | -35.6 | 82 | 576 | 00 24 41 |
| 00 27 00 | J2310+1055 | 18 58 22 | 24.7 | 105.3 | -4.2 | | -36.2 | 21 | 576 | 00 27 00 |
| 00 27 50 | =2307+106 | 18 59 12 | 24.8 | 105.4 | -4.2 | | -36.1 | 50 | 582 | 00 27 01 |
| 00 27 50 | NGC7479 | 18 59 12 | 26.8 | 105.7 | -4.1 | | -36.3 | -21 | 582 | No stop |
| 00 31 50 | --- | 19 03 12 | 27.4 | 106.6 | -4.0 | | -36.1 | 219 | 613 | 00 27 51 |
| 00 31 50 | J2300+1037 | 19 03 12 | 26.6 | 108.8 | -4.0 | | -35.4 | -18 | 613 | No stop |
| 00 33 30 | =2257+103 | 19 04 53 | 26.9 | 109.2 | -3.9 | | -35.3 | 82 | 626 | 00 31 51 |
| 00 34 10 | J2310+1055 | 19 05 33 | 25.8 | 106.8 | -4.1 | | -35.8 | 21 | 626 | 00 34 10 |
| 00 35 00 | =2307+106 | 19 06 23 | 25.9 | 107.0 | -4.1 | | -35.8 | 50 | 632 | 00 34 11 |
| 00 35 00 | NGC7479 | 19 06 23 | 27.8 | 107.3 | -4.0 | | -35.9 | -21 | 632 | No stop |
| 00 39 00 | --- | 19 10 24 | 28.4 | 108.2 | -3.9 | | -35.7 | 219 | 663 | 00 35 01 |
| 00 39 00 | J2300+1037 | 19 10 24 | 27.7 | 110.4 | -3.8 | | -34.9 | -18 | 663 | No stop |
| 00 40 40 | =2257+103 | 19 12 04 | 27.9 | 110.8 | -3.8 | | -34.8 | 82 | 676 | 00 39 01 |
| 00 41 20 | J2310+1055 | 19 12 44 | 26.8 | 108.4 | -4.0 | | -35.5 | 21 | 676 | 00 41 20 |
| 00 42 10 | =2307+106 | 19 13 34 | 26.9 | 108.6 | -4.0 | | -35.4 | 50 | 682 | 00 41 21 |

Schedule for TORUN (Code Tr ) Page 5

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 00 42 10 | NGC7479 | 19 13 34 | 28.8 | 109.0 | -3.9 | | -35.6 | -21 | 682 | No stop |
| 00 46 10 | --- | 19 17 35 | 29.4 | 109.9 | -3.8 | | -35.3 | 219 | 713 | 00 42 11 |
| 00 46 10 | J2300+1037 | 19 17 35 | 28.7 | 112.0 | -3.7 | | -34.5 | -18 | 713 | No stop |
| 00 47 50 | =2257+103 | 19 19 15 | 28.9 | 112.4 | -3.7 | | -34.4 | 82 | 726 | 00 46 11 |
| 00 48 30 | J2310+1055 | 19 19 55 | 27.8 | 110.1 | -3.9 | | -35.1 | 21 | 726 | 00 48 30 |
| 00 49 20 | =2307+106 | 19 20 45 | 27.9 | 110.3 | -3.8 | | -35.0 | 50 | 732 | 00 48 31 |
| 00 49 20 | NGC7479 | 19 20 45 | 29.8 | 110.6 | -3.7 | | -35.1 | -21 | 732 | No stop |
| 00 53 20 | --- | 19 24 46 | 30.4 | 111.5 | -3.7 | | -34.9 | 219 | 763 | 00 49 21 |
| 00 53 20 | J2300+1037 | 19 24 46 | 29.7 | 113.7 | -3.6 | | -34.0 | -18 | 763 | No stop |
| 00 55 00 | =2257+103 | 19 26 26 | 29.9 | 114.1 | -3.6 | | -33.9 | 82 | 776 | 00 53 21 |
| 00 55 40 | J2310+1055 | 19 27 06 | 28.8 | 111.7 | -3.7 | | -34.6 | 21 | 776 | 00 55 40 |
| 00 56 30 | =2307+106 | 19 27 56 | 28.9 | 111.9 | -3.7 | | -34.6 | 50 | 782 | 00 55 41 |
| 00 56 30 | NGC7479 | 19 27 56 | 30.9 | 112.3 | -3.6 | | -34.7 | -21 | 782 | No stop |
| 01 00 30 | --- | 19 31 57 | 31.4 | 113.2 | -3.6 | | -34.4 | 219 | 813 | 00 56 31 |
| 01 00 30 | J2300+1037 | 19 31 57 | 30.6 | 115.4 | -3.5 | | -33.5 | -18 | 813 | No stop |
| 01 02 10 | =2257+103 | 19 33 37 | 30.9 | 115.8 | -3.5 | | -33.4 | 82 | 826 | 01 00 31 |
| 01 02 50 | J2310+1055 | 19 34 18 | 29.8 | 113.4 | -3.6 | | -34.2 | 21 | 826 | 01 02 50 |
| 01 03 40 | =2307+106 | 19 35 08 | 29.9 | 113.6 | -3.6 | | -34.1 | 50 | 832 | 01 02 51 |
| 01 03 40 | NGC7479 | 19 35 08 | 31.8 | 114.0 | -3.5 | | -34.2 | -21 | 832 | No stop |
| 01 07 40 | --- | 19 39 08 | 32.4 | 114.9 | -3.4 | | -33.9 | 219 | 863 | 01 03 41 |
| 01 07 40 | J2300+1037 | 19 39 08 | 31.6 | 117.1 | -3.4 | | -32.9 | -18 | 863 | No stop |
| 01 09 20 | =2257+103 | 19 40 49 | 31.8 | 117.5 | -3.3 | | -32.8 | 82 | 876 | 01 07 41 |
| 01 10 00 | J2310+1055 | 19 41 29 | 30.8 | 115.1 | -3.5 | | -33.6 | 21 | 876 | 01 10 00 |
| 01 10 50 | =2307+106 | 19 42 19 | 30.9 | 115.3 | -3.5 | | -33.6 | 50 | 882 | 01 10 01 |
| 01 10 50 | NGC7479 | 19 42 19 | 32.8 | 115.7 | -3.4 | | -33.6 | -21 | 882 | No stop |
| 01 14 50 | --- | 19 46 20 | 33.4 | 116.7 | -3.3 | | -33.3 | 219 | 913 | 01 10 51 |
| 01 14 50 | J2300+1037 | 19 46 20 | 32.6 | 118.9 | -3.2 | | -32.3 | -19 | 913 | No stop |
| 01 16 30 | =2257+103 | 19 48 00 | 32.8 | 119.3 | -3.2 | | -32.2 | 81 | 926 | 01 14 51 |
| 01 17 10 | J2310+1055 | 19 48 40 | 31.8 | 116.8 | -3.4 | | -33.1 | 21 | 926 | 01 17 10 |
| 01 18 00 | =2307+106 | 19 49 30 | 31.9 | 117.0 | -3.4 | | -33.0 | 50 | 932 | 01 17 11 |
| 01 18 00 | NGC7479 | 19 49 30 | 33.8 | 117.4 | -3.3 | | -33.1 | -21 | 932 | No stop |
| 01 22 00 | --- | 19 53 31 | 34.3 | 118.4 | -3.2 | | -32.7 | 219 | 963 | 01 18 01 |

Schedule for TORUN (Code Tr ) Page 6

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 01 22 00 | J2300+1037 | 19 53 31 | 33.5 | 120.7 | -3.1 | | -31.7 | -19 | 963 | No stop |
| 01 23 40 | =2257+103 | 19 55 11 | 33.7 | 121.1 | -3.1 | | -31.6 | 81 | 976 | 01 22 01 |
| 01 24 20 | J2310+1055 | 19 55 51 | 32.7 | 118.5 | -3.3 | | -32.5 | 20 | 976 | 01 24 20 |
| 01 25 10 | =2307+106 | 19 56 41 | 32.8 | 118.7 | -3.2 | | -32.4 | 50 | 982 | 01 24 21 |
| 01 25 10 | NGC7479 | 19 56 41 | 34.7 | 119.2 | -3.1 | | -32.5 | -21 | 982 | No stop |
| 01 29 10 | --- | 20 00 42 | 35.3 | 120.2 | -3.1 | | -32.1 | 219 | 1013 | 01 25 11 |
| 01 29 10 | J2300+1037 | 20 00 42 | 34.4 | 122.5 | -3.0 | | -31.0 | -19 | 1013 | No stop |
| 01 30 50 | =2257+103 | 20 02 22 | 34.6 | 122.9 | -3.0 | | -30.9 | 81 | 1026 | 01 29 11 |
| 01 31 30 | J2310+1055 | 20 03 02 | 33.7 | 120.3 | -3.1 | | -31.9 | 20 | 1026 | 01 31 30 |
| 01 32 20 | =2307+106 | 20 03 52 | 33.8 | 120.5 | -3.1 | | -31.8 | 50 | 1032 | 01 31 31 |
| 01 32 20 | NGC7479 | 20 03 52 | 35.7 | 121.0 | -3.0 | | -31.8 | -21 | 1032 | No stop |
| 01 36 20 | --- | 20 07 53 | 36.2 | 122.1 | -3.0 | | -31.4 | 219 | 1063 | 01 32 21 |
| 01 36 20 | J2300+1037 | 20 07 53 | 35.3 | 124.3 | -2.9 | | -30.3 | -19 | 1063 | No stop |
| 01 38 00 | =2257+103 | 20 09 33 | 35.5 | 124.8 | -2.9 | | -30.1 | 81 | 1076 | 01 36 21 |
| 01 38 40 | J2310+1055 | 20 10 13 | 34.6 | 122.1 | -3.0 | | -31.2 | 20 | 1076 | 01 38 40 |
| 01 39 30 | =2307+106 | 20 11 04 | 34.7 | 122.4 | -3.0 | | -31.1 | 50 | 1082 | 01 38 41 |
| 01 39 30 | NGC7479 | 20 11 04 | 36.6 | 122.9 | -2.9 | | -31.1 | -21 | 1082 | No stop |
| 01 43 30 | --- | 20 15 04 | 37.1 | 123.9 | -2.8 | | -30.7 | 219 | 1113 | 01 39 31 |
| 01 43 30 | J2300+1037 | 20 15 04 | 36.2 | 126.2 | -2.8 | | -29.5 | -19 | 1113 | No stop |
| 01 45 10 | =2257+103 | 20 16 44 | 36.4 | 126.7 | -2.7 | | -29.4 | 81 | 1126 | 01 43 31 |
| 01 45 50 | J2310+1055 | 20 17 25 | 35.5 | 124.0 | -2.9 | | -30.5 | 20 | 1126 | 01 45 50 |
| 01 46 40 | =2307+106 | 20 18 15 | 35.6 | 124.2 | -2.9 | | -30.4 | 50 | 1132 | 01 45 51 |
| 01 46 40 | NGC7479 | 20 18 15 | 37.5 | 124.8 | -2.8 | | -30.3 | -21 | 1132 | No stop |
| 01 50 40 | --- | 20 22 15 | 38.0 | 125.9 | -2.7 | | -29.9 | 219 | 1163 | 01 46 41 |
| 01 50 40 | J2300+1037 | 20 22 15 | 37.1 | 128.1 | -2.6 | | -28.7 | -19 | 1163 | No stop |
| 01 52 20 | =2257+103 | 20 23 56 | 37.3 | 128.6 | -2.6 | | -28.5 | 81 | 1176 | 01 50 41 |
| 01 53 00 | J2310+1055 | 20 24 36 | 36.4 | 125.9 | -2.8 | | -29.7 | 20 | 1176 | 01 53 00 |
| 01 53 50 | =2307+106 | 20 25 26 | 36.5 | 126.1 | -2.8 | | -29.6 | 50 | 1182 | 01 53 01 |
| 01 53 50 | NGC7479 | 20 25 26 | 38.4 | 126.7 | -2.7 | | -29.5 | -21 | 1182 | No stop |
| 01 57 50 | --- | 20 29 27 | 38.8 | 127.8 | -2.6 | | -29.1 | 219 | 1213 | 01 53 51 |

Schedule for TORUN (Code Tr ) Page 7

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 01 57 50 | J2300+1037 | 20 29 27 | 37.9 | 130.1 | -2.5 | | -27.9 | -19 | 1213 | No stop |
| 01 59 30 | =2257+103 | 20 31 07 | 38.1 | 130.6 | -2.5 | | -27.7 | 81 | 1226 | 01 57 51 |
| 02 00 10 | J2310+1055 | 20 31 47 | 37.2 | 127.8 | -2.7 | | -28.9 | 20 | 1226 | 02 00 10 |
| 02 01 00 | =2307+106 | 20 32 37 | 37.3 | 128.0 | -2.6 | | -28.8 | 50 | 1232 | 02 00 11 |
| 02 01 00 | NGC7479 | 20 32 37 | 39.2 | 128.7 | -2.6 | | -28.7 | -21 | 1232 | No stop |
| 02 05 00 | --- | 20 36 38 | 39.7 | 129.8 | -2.5 | | -28.2 | 219 | 1263 | 02 01 01 |
| 02 05 00 | J2300+1037 | 20 36 38 | 38.7 | 132.1 | -2.4 | | -27.0 | -19 | 1263 | No stop |
| 02 06 40 | =2257+103 | 20 38 18 | 38.9 | 132.6 | -2.4 | | -26.7 | 81 | 1276 | 02 05 01 |
| 02 07 20 | J2310+1055 | 20 38 58 | 38.1 | 129.8 | -2.5 | | -28.1 | 20 | 1276 | 02 07 20 |
| 02 08 10 | =2307+106 | 20 39 48 | 38.2 | 130.0 | -2.5 | | -28.0 | 50 | 1282 | 02 07 21 |
| 02 13 10 | 3C454.3 | 20 44 49 | 45.2 | 133.0 | -2.2 | | -27.2 | 262 | 1282 | 02 13 10 |
| 02 16 10 | --- | 20 47 50 | 45.6 | 133.9 | -2.1 | | -26.8 | 180 | 1305 | 02 13 11 |
| 02 21 25 | J2310+1055 | 20 53 05 | 39.7 | 133.7 | -2.3 | | -26.2 | 277 | 1305 | 02 21 25 |
| 02 22 15 | =2307+106 | 20 54 11 | 39.8 | 134.0 | -2.3 | | -26.1 | 50 | 1312 | 02 21 26 |
| 02 22 15 | NGC7479 | 20 53 56 | 41.6 | 134.8 | -2.2 | | -25.9 | -21 | 1312 | No stop |
| 02 26 15 | --- | 20 57 56 | 42.0 | 135.9 | -2.1 | | -25.3 | 219 | 1342 | 02 22 16 |
| 02 26 15 | J2300+1037 | 20 57 56 | 41.0 | 138.3 | -2.1 | | -24.0 | -19 | 1342 | No stop |
| 02 27 55 | =2257+103 | 20 59 37 | 41.1 | 138.8 | -2.0 | | -23.8 | 81 | 1355 | 02 26 16 |
| 02 28 35 | J2310+1055 | 21 00 17 | 40.4 | 135.8 | -2.2 | | -25.2 | 19 | 1355 | 02 28 35 |
| 02 29 25 | =2307+106 | 21 01 07 | 40.5 | 136.0 | -2.2 | | -25.1 | 50 | 1362 | 02 28 36 |
| 02 29 25 | NGC7479 | 21 01 07 | 42.4 | 136.9 | -2.1 | | -24.8 | -21 | 1362 | No stop |
| 02 33 25 | --- | 21 05 07 | 42.8 | 138.1 | -2.0 | | -24.2 | 219 | 1392 | 02 29 26 |
| 02 33 25 | J2300+1037 | 21 05 07 | 41.7 | 140.4 | -1.9 | | -22.9 | -19 | 1392 | No stop |
| 02 35 05 | =2257+103 | 21 06 48 | 41.8 | 140.9 | -1.9 | | -22.7 | 81 | 1405 | 02 33 26 |
| 02 35 45 | J2310+1055 | 21 07 28 | 41.2 | 137.9 | -2.1 | | -24.2 | 19 | 1405 | 02 35 45 |
| 02 36 35 | =2307+106 | 21 08 18 | 41.2 | 138.2 | -2.0 | | -24.1 | 50 | 1412 | 02 35 46 |
| 02 36 35 | NGC7479 | 21 08 18 | 43.1 | 139.1 | -2.0 | | -23.8 | -21 | 1412 | No stop |
| 02 40 35 | --- | 21 12 19 | 43.5 | 140.3 | -1.9 | | -23.1 | 219 | 1442 | 02 36 36 |
| 02 40 35 | J2300+1037 | 21 12 19 | 42.3 | 142.6 | -1.8 | | -21.8 | -19 | 1442 | No stop |
| 02 42 15 | =2257+103 | 21 13 59 | 42.5 | 143.1 | -1.8 | | -21.5 | 81 | 1455 | 02 40 36 |

Schedule for TORUN (Code Tr ) Page 8

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 02 42 55 | J2310+1055 | 21 14 39 | 41.9 | 140.1 | -1.9 | | -23.1 | 19 | 1455 | 02 42 55 |
| 02 43 45 | =2307+106 | 21 15 29 | 42.0 | 140.3 | -1.9 | | -23.0 | 50 | 1462 | 02 42 56 |
| 02 43 45 | NGC7479 | 21 15 29 | 43.8 | 141.3 | -1.8 | | -22.6 | -21 | 1462 | No stop |
| 02 47 45 | --- | 21 19 30 | 44.1 | 142.5 | -1.8 | | -22.0 | 219 | 1492 | 02 43 46 |
| 02 47 45 | J2300+1037 | 21 19 30 | 43.0 | 144.8 | -1.7 | | -20.6 | -19 | 1492 | No stop |
| 02 49 25 | =2257+103 | 21 21 10 | 43.1 | 145.4 | -1.7 | | -20.3 | 81 | 1505 | 02 47 46 |
| 02 50 05 | J2310+1055 | 21 21 50 | 42.5 | 142.3 | -1.8 | | -22.0 | 19 | 1505 | 02 50 05 |
| 02 50 55 | =2307+106 | 21 22 40 | 42.6 | 142.5 | -1.8 | | -21.9 | 50 | 1512 | 02 50 06 |
| 02 50 55 | NGC7479 | 21 22 40 | 44.4 | 143.5 | -1.7 | | -21.4 | -21 | 1512 | No stop |
| 02 54 55 | --- | 21 26 41 | 44.8 | 144.8 | -1.6 | | -20.7 | 219 | 1542 | 02 50 56 |
| 02 54 55 | J2300+1037 | 21 26 41 | 43.6 | 147.1 | -1.6 | | -19.4 | -19 | 1542 | No stop |
| 02 56 35 | =2257+103 | 21 28 21 | 43.7 | 147.7 | -1.5 | | -19.1 | 81 | 1555 | 02 54 56 |
| 02 57 15 | J2310+1055 | 21 29 01 | 43.2 | 144.5 | -1.7 | | -20.8 | 19 | 1555 | 02 57 15 |
| 02 58 05 | =2307+106 | 21 29 51 | 43.3 | 144.8 | -1.7 | | -20.7 | 50 | 1562 | 02 57 16 |
| 02 58 05 | NGC7479 | 21 29 51 | 45.0 | 145.9 | -1.6 | | -20.2 | -21 | 1562 | No stop |
| 03 02 05 | --- | 21 33 52 | 45.4 | 147.2 | -1.5 | | -19.5 | 219 | 1592 | 02 58 06 |
| 03 02 05 | J2300+1037 | 21 33 52 | 44.1 | 149.4 | -1.5 | | -18.1 | -19 | 1592 | No stop |
| 03 03 45 | =2257+103 | 21 35 32 | 44.3 | 150.0 | -1.4 | | -17.8 | 81 | 1605 | 03 02 06 |
| 03 04 25 | J2310+1055 | 21 36 13 | 43.8 | 146.8 | -1.6 | | -19.6 | 19 | 1605 | 03 04 25 |
| 03 05 15 | =2307+106 | 21 37 03 | 43.9 | 147.1 | -1.6 | | -19.4 | 50 | 1612 | 03 04 26 |
| 03 05 15 | NGC7479 | 21 37 03 | 45.6 | 148.2 | -1.5 | | -18.9 | -20 | 1612 | No stop |
| 03 09 15 | --- | 21 41 03 | 45.9 | 149.5 | -1.4 | | -18.2 | 220 | 1642 | 03 05 16 |
| 03 09 15 | J2300+1037 | 21 41 03 | 44.7 | 151.8 | -1.3 | | -16.8 | -19 | 1642 | No stop |
| 03 10 55 | =2257+103 | 21 42 44 | 44.8 | 152.4 | -1.3 | | -16.5 | 81 | 1655 | 03 09 16 |
| 03 11 35 | J2310+1055 | 21 43 24 | 44.4 | 149.1 | -1.5 | | -18.3 | 19 | 1655 | 03 11 35 |
| 03 12 25 | =2307+106 | 21 44 14 | 44.4 | 149.4 | -1.4 | | -18.2 | 50 | 1662 | 03 11 36 |
| 03 12 25 | NGC7479 | 21 44 14 | 46.2 | 150.6 | -1.4 | | -17.6 | -20 | 1662 | No stop |
| 03 16 25 | --- | 21 48 14 | 46.5 | 152.0 | -1.3 | | -16.8 | 220 | 1692 | 03 12 26 |
| 03 16 25 | J2300+1037 | 21 48 14 | 45.2 | 154.2 | -1.2 | | -15.4 | -19 | 1692 | No stop |
| 03 18 05 | =2257+103 | 21 49 55 | 45.3 | 154.8 | -1.2 | | -15.1 | 81 | 1705 | 03 16 26 |

Schedule for TORUN (Code Tr ) Page 9

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 03 18 45 | J2310+1055 | 21 50 35 | 44.9 | 151.5 | -1.3 | | -17.0 | 18 | 1705 | 03 18 45 |
| 03 19 35 | =2307+106 | 21 51 25 | 45.0 | 151.7 | -1.3 | | -16.8 | 50 | 1712 | 03 18 46 |
| 03 19 35 | NGC7479 | 21 51 25 | 46.7 | 153.0 | -1.2 | | -16.2 | -20 | 1712 | No stop |
| 03 23 35 | --- | 21 55 26 | 47.0 | 154.4 | -1.2 | | -15.4 | 220 | 1742 | 03 19 36 |
| 03 23 35 | J2300+1037 | 21 55 26 | 45.6 | 156.6 | -1.1 | | -14.0 | -19 | 1742 | No stop |
| 03 25 15 | =2257+103 | 21 57 06 | 45.7 | 157.2 | -1.1 | | -13.7 | 81 | 1755 | 03 23 36 |
| 03 25 55 | J2310+1055 | 21 57 46 | 45.4 | 153.9 | -1.2 | | -15.6 | 18 | 1755 | 03 25 55 |
| 03 26 45 | =2307+106 | 21 58 36 | 45.5 | 154.2 | -1.2 | | -15.5 | 50 | 1762 | 03 25 56 |
| 03 26 45 | NGC7479 | 21 58 36 | 47.2 | 155.5 | -1.1 | | -14.8 | -20 | 1762 | No stop |
| 03 30 45 | --- | 22 02 37 | 47.4 | 156.9 | -1.1 | | -13.9 | 220 | 1792 | 03 26 46 |
| 03 30 45 | J2300+1037 | 22 02 37 | 46.0 | 159.1 | -1.0 | | -12.6 | -19 | 1792 | No stop |
| 03 32 25 | =2257+103 | 22 04 17 | 46.1 | 159.7 | -0.9 | | -12.3 | 81 | 1805 | 03 30 46 |
| 03 33 05 | J2310+1055 | 22 04 57 | 45.9 | 156.3 | -1.1 | | -14.2 | 18 | 1805 | 03 33 05 |
| 03 33 55 | =2307+106 | 22 05 47 | 45.9 | 156.6 | -1.1 | | -14.1 | 50 | 1812 | 03 33 06 |
| 03 33 55 | NGC7479 | 22 05 47 | 47.6 | 158.0 | -1.0 | | -13.3 | -20 | 1812 | No stop |
| 03 37 55 | --- | 22 09 48 | 47.8 | 159.5 | -0.9 | | -12.5 | 220 | 1842 | 03 33 56 |
| 03 37 55 | J2300+1037 | 22 09 48 | 46.4 | 161.6 | -0.9 | | -11.1 | -19 | 1842 | No stop |
| 03 39 35 | =2257+103 | 22 11 28 | 46.5 | 162.2 | -0.8 | | -10.8 | 81 | 1855 | 03 37 56 |
| 03 40 15 | J2310+1055 | 22 12 08 | 46.3 | 158.8 | -1.0 | | -12.8 | 18 | 1855 | 03 40 15 |
| 03 41 05 | =2307+106 | 22 12 59 | 46.3 | 159.1 | -1.0 | | -12.6 | 50 | 1862 | 03 40 16 |
| 03 41 05 | NGC7479 | 22 12 59 | 48.0 | 160.6 | -0.9 | | -11.8 | -20 | 1862 | No stop |
| 03 45 05 | --- | 22 16 59 | 48.2 | 162.0 | -0.8 | | -10.9 | 220 | 1892 | 03 41 06 |
| 03 45 05 | J2300+1037 | 22 16 59 | 46.7 | 164.1 | -0.7 | | -9.6 | -19 | 1892 | No stop |
| 03 46 45 | =2257+103 | 22 18 39 | 46.8 | 164.7 | -0.7 | | -9.3 | 81 | 1905 | 03 45 06 |
| 03 47 25 | J2310+1055 | 22 19 20 | 46.6 | 161.3 | -0.9 | | -11.3 | 18 | 1905 | 03 47 25 |
| 03 48 15 | =2307+106 | 22 20 10 | 46.7 | 161.6 | -0.9 | | -11.1 | 50 | 1912 | 03 47 26 |
| 03 48 15 | NGC7479 | 22 20 10 | 48.3 | 163.2 | -0.8 | | -10.3 | -20 | 1912 | No stop |
| 03 52 15 | --- | 22 24 10 | 48.5 | 164.6 | -0.7 | | -9.4 | 220 | 1942 | 03 48 16 |
| 03 52 15 | J2300+1037 | 22 24 10 | 47.0 | 166.7 | -0.6 | | -8.1 | -19 | 1942 | No stop |
| 03 53 55 | =2257+103 | 22 25 51 | 47.0 | 167.3 | -0.6 | | -7.7 | 81 | 1955 | 03 52 16 |

Schedule for TORUN (Code Tr ) Page 10

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 03 54 35 | J2310+1055 | 22 26 31 | 47.0 | 163.8 | -0.7 | | -9.8 | 18 | 1955 | 03 54 35 |
| 03 55 25 | =2307+106 | 22 27 21 | 47.0 | 164.1 | -0.7 | | -9.6 | 50 | 1962 | 03 54 36 |
| 03 55 25 | NGC7479 | 22 27 21 | 48.6 | 165.8 | -0.6 | | -8.7 | -20 | 1962 | No stop |
| 03 59 25 | --- | 22 31 22 | 48.7 | 167.2 | -0.6 | | -7.8 | 220 | 1992 | 03 55 26 |
| 03 59 25 | J2300+1037 | 22 31 22 | 47.2 | 169.2 | -0.5 | | -6.6 | -19 | 1992 | No stop |
| 04 01 05 | =2257+103 | 22 33 02 | 47.2 | 169.8 | -0.5 | | -6.2 | 81 | 2005 | 03 59 26 |
| 04 01 45 | J2310+1055 | 22 33 42 | 47.2 | 166.4 | -0.6 | | -8.3 | 18 | 2005 | 04 01 45 |
| 04 02 35 | =2307+106 | 22 34 32 | 47.3 | 166.7 | -0.6 | | -8.1 | 50 | 2012 | 04 01 46 |
| 04 02 35 | NGC7479 | 22 34 32 | 48.8 | 168.4 | -0.5 | | -7.1 | -19 | 2012 | No stop |
| 04 06 35 | --- | 22 38 33 | 48.9 | 169.9 | -0.5 | | -6.2 | 221 | 2042 | 04 02 36 |
| 04 06 35 | J2300+1037 | 22 38 33 | 47.4 | 171.8 | -0.4 | | -5.0 | -19 | 2042 | No stop |
| 04 08 15 | =2257+103 | 22 40 13 | 47.4 | 172.4 | -0.3 | | -4.6 | 81 | 2055 | 04 06 36 |
| 04 08 55 | J2310+1055 | 22 40 53 | 47.5 | 169.0 | -0.5 | | -6.7 | 18 | 2055 | 04 08 55 |
| 04 09 45 | =2307+106 | 22 41 43 | 47.5 | 169.3 | -0.5 | | -6.5 | 50 | 2062 | 04 08 56 |
| 04 14 45 | 3C454.3 | 22 46 44 | 53.1 | 176.8 | -0.1 | | -2.0 | 265 | 2062 | 04 14 45 |
| 04 17 45 | --- | 22 49 45 | 53.1 | 178.0 | -0.1 | | -1.2 | 180 | 2085 | 04 14 46 |
| 04 23 00 | J2310+1055 | 22 55 00 | 47.8 | 174.1 | -0.3 | | -3.6 | 281 | 2085 | 04 23 00 |
| 04 23 50 | =2307+106 | 22 56 06 | 47.8 | 174.5 | -0.3 | | -3.4 | 50 | 2091 | 04 23 01 |
| 04 23 50 | NGC7479 | 22 55 51 | 49.3 | 176.3 | -0.2 | | -2.3 | -19 | 2091 | No stop |
| 04 27 50 | --- | 22 59 51 | 49.3 | 177.8 | -0.1 | | -1.3 | 221 | 2122 | 04 23 51 |
| 04 27 50 | J2300+1037 | 22 59 51 | 47.6 | 179.6 | -0.0 | | -0.3 | -20 | 2122 | No stop |
| 04 29 30 | =2257+103 | 23 01 31 | 47.6 | 180.2 | 0.0 | | 0.1 | 80 | 2135 | 04 27 51 |
| 04 30 10 | J2310+1055 | 23 02 12 | 47.9 | 176.7 | -0.2 | | -2.0 | 18 | 2135 | 04 30 10 |
| 04 31 00 | =2307+106 | 23 03 02 | 47.9 | 177.0 | -0.1 | | -1.8 | 50 | 2141 | 04 30 11 |
| 04 31 00 | NGC7479 | 23 03 02 | 49.3 | 179.0 | -0.0 | | -0.6 | -19 | 2141 | No stop |
| 04 35 00 | --- | 23 07 02 | 49.3 | 180.5 | 0.0 | | 0.3 | 221 | 2172 | 04 31 01 |
| 04 35 00 | J2300+1037 | 23 07 02 | 47.6 | 182.2 | 0.1 | | 1.3 | -20 | 2172 | No stop |
| 04 36 40 | =2257+103 | 23 08 43 | 47.6 | 182.8 | 0.1 | | 1.7 | 80 | 2185 | 04 35 01 |
| 04 37 20 | J2310+1055 | 23 09 23 | 47.9 | 179.3 | -0.0 | | -0.4 | 18 | 2185 | 04 37 20 |
| 04 38 10 | =2307+106 | 23 10 13 | 47.9 | 179.6 | -0.0 | | -0.2 | 50 | 2191 | 04 37 21 |

Schedule for TORUN (Code Tr ) Page 11

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 04 38 10 | NGC7479 | 23 10 13 | 49.3 | 181.7 | 0.1 | | 1.0 | -19 | 2191 | No stop |
| 04 42 10 | --- | 23 14 14 | 49.3 | 183.2 | 0.1 | | 2.0 | 221 | 2222 | 04 38 11 |
| 04 42 10 | J2300+1037 | 23 14 14 | 47.5 | 184.8 | 0.2 | | 2.9 | -20 | 2222 | No stop |
| 04 43 50 | =2257+103 | 23 15 54 | 47.5 | 185.4 | 0.2 | | 3.3 | 80 | 2235 | 04 42 11 |
| 04 44 30 | J2310+1055 | 23 16 34 | 47.9 | 182.0 | 0.1 | | 1.2 | 18 | 2235 | 04 44 30 |
| 04 45 20 | =2307+106 | 23 17 24 | 47.9 | 182.3 | 0.1 | | 1.4 | 50 | 2241 | 04 44 31 |
| 04 45 20 | NGC7479 | 23 17 24 | 49.2 | 184.4 | 0.2 | | 2.7 | -18 | 2241 | No stop |
| 04 49 20 | --- | 23 21 25 | 49.2 | 185.9 | 0.3 | | 3.6 | 222 | 2272 | 04 45 21 |
| 04 49 20 | J2300+1037 | 23 21 25 | 47.4 | 187.4 | 0.3 | | 4.5 | -20 | 2272 | No stop |
| 04 51 00 | =2257+103 | 23 23 05 | 47.4 | 188.0 | 0.4 | | 4.9 | 80 | 2285 | 04 49 21 |
| 04 51 40 | J2310+1055 | 23 23 45 | 47.8 | 184.6 | 0.2 | | 2.8 | 18 | 2285 | 04 51 40 |
| 04 52 30 | =2307+106 | 23 24 35 | 47.8 | 184.9 | 0.2 | | 3.0 | 50 | 2291 | 04 51 41 |
| 04 52 30 | NGC7479 | 23 24 35 | 49.1 | 187.1 | 0.3 | | 4.3 | -18 | 2291 | No stop |
| 04 56 30 | --- | 23 28 36 | 49.0 | 188.6 | 0.4 | | 5.2 | 222 | 2322 | 04 52 31 |
| 04 56 30 | J2300+1037 | 23 28 36 | 47.3 | 190.0 | 0.5 | | 6.1 | -21 | 2322 | No stop |
| 04 58 10 | =2257+103 | 23 30 16 | 47.2 | 190.6 | 0.5 | | 6.5 | 79 | 2335 | 04 56 31 |
| 04 58 50 | J2310+1055 | 23 30 56 | 47.7 | 187.2 | 0.3 | | 4.4 | 18 | 2335 | 04 58 50 |
| 04 59 40 | =2307+106 | 23 31 46 | 47.7 | 187.5 | 0.3 | | 4.6 | 50 | 2341 | 04 58 51 |
| 04 59 40 | NGC7479 | 23 31 46 | 49.0 | 189.7 | 0.4 | | 6.0 | -19 | 2341 | No stop |
| 05 03 40 | --- | 23 35 47 | 48.9 | 191.2 | 0.5 | | 6.9 | 221 | 2372 | 04 59 41 |
| 05 03 40 | J2300+1037 | 23 35 47 | 47.0 | 192.6 | 0.6 | | 7.6 | -21 | 2372 | No stop |
| 05 05 20 | =2257+103 | 23 37 27 | 47.0 | 193.2 | 0.6 | | 8.0 | 79 | 2385 | 05 03 41 |
| 05 06 00 | J2310+1055 | 23 38 07 | 47.6 | 189.8 | 0.4 | | 6.0 | 18 | 2385 | 05 06 00 |
| 05 06 50 | =2307+106 | 23 38 58 | 47.5 | 190.1 | 0.5 | | 6.2 | 50 | 2391 | 05 06 01 |
| 05 06 50 | NGC7479 | 23 38 58 | 48.8 | 192.4 | 0.6 | | 7.6 | -19 | 2391 | No stop |
| 05 10 50 | --- | 23 42 58 | 48.6 | 193.9 | 0.6 | | 8.5 | 221 | 2422 | 05 06 51 |
| 05 10 50 | J2300+1037 | 23 42 58 | 46.8 | 195.1 | 0.7 | | 9.2 | -21 | 2422 | No stop |
| 05 12 30 | =2257+103 | 23 44 39 | 46.7 | 195.7 | 0.7 | | 9.5 | 79 | 2435 | 05 10 51 |
| 05 13 10 | J2310+1055 | 23 45 19 | 47.4 | 192.4 | 0.6 | | 7.6 | 18 | 2435 | 05 13 10 |
| 05 14 00 | =2307+106 | 23 46 09 | 47.3 | 192.7 | 0.6 | | 7.7 | 50 | 2441 | 05 13 11 |

Schedule for TORUN (Code Tr ) Page 12

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 05 14 00 | NGC7479 | 23 46 09 | 48.5 | 195.0 | 0.7 | | 9.2 | -19 | 2441 | No stop |
| 05 18 00 | --- | 23 50 09 | 48.3 | 196.5 | 0.7 | | 10.0 | 221 | 2472 | 05 14 01 |
| 05 18 00 | J2300+1037 | 23 50 09 | 46.5 | 197.7 | 0.8 | | 10.7 | -21 | 2472 | No stop |
| 05 19 40 | =2257+103 | 23 51 50 | 46.4 | 198.3 | 0.8 | | 11.0 | 79 | 2485 | 05 18 01 |
| 05 20 20 | J2310+1055 | 23 52 30 | 47.1 | 195.0 | 0.7 | | 9.1 | 18 | 2485 | 05 20 20 |
| 05 21 10 | =2307+106 | 23 53 20 | 47.1 | 195.3 | 0.7 | | 9.3 | 50 | 2491 | 05 20 21 |
| 05 21 10 | NGC7479 | 23 53 20 | 48.2 | 197.6 | 0.8 | | 10.7 | -19 | 2491 | No stop |
| 05 25 10 | --- | 23 57 21 | 48.0 | 199.0 | 0.9 | | 11.6 | 221 | 2522 | 05 21 11 |
| 05 25 10 | J2300+1037 | 23 57 21 | 46.1 | 200.2 | 0.9 | | 12.2 | -21 | 2522 | No stop |
| 05 26 50 | =2257+103 | 23 59 01 | 46.0 | 200.7 | 1.0 | | 12.5 | 79 | 2535 | 05 25 11 |
| 05 27 30 | J2310+1055 | 23 59 41 | 46.8 | 197.5 | 0.8 | | 10.6 | 19 | 2535 | 05 27 30 |
| 05 28 20 | =2307+106 | 00 00 31 | 46.8 | 197.8 | 0.8 | | 10.8 | 50 | 2541 | 05 27 31 |
| 05 28 20 | NGC7479 | 00 00 31 | 47.9 | 200.2 | 0.9 | | 12.2 | -19 | 2541 | No stop |
| 05 32 20 | --- | 00 04 32 | 47.6 | 201.6 | 1.0 | | 13.1 | 221 | 2572 | 05 28 21 |
| 05 32 20 | J2300+1037 | 00 04 32 | 45.7 | 202.6 | 1.1 | | 13.6 | -21 | 2572 | No stop |
| 05 34 00 | =2257+103 | 00 06 12 | 45.6 | 203.2 | 1.1 | | 13.9 | 79 | 2585 | 05 32 21 |
| 05 34 40 | J2310+1055 | 00 06 52 | 46.5 | 200.0 | 0.9 | | 12.1 | 19 | 2585 | 05 34 40 |
| 05 35 30 | =2307+106 | 00 07 42 | 46.4 | 200.3 | 0.9 | | 12.3 | 50 | 2591 | 05 34 41 |
| 05 35 30 | NGC7479 | 00 07 42 | 47.5 | 202.7 | 1.0 | | 13.7 | -19 | 2591 | No stop |
| 05 39 30 | --- | 00 11 43 | 47.2 | 204.1 | 1.1 | | 14.6 | 221 | 2622 | 05 35 31 |
| 05 39 30 | J2300+1037 | 00 11 43 | 45.3 | 205.1 | 1.2 | | 15.0 | -21 | 2622 | No stop |
| 05 41 10 | =2257+103 | 00 13 23 | 45.2 | 205.6 | 1.2 | | 15.3 | 79 | 2635 | 05 39 31 |
| 05 41 50 | J2310+1055 | 00 14 03 | 46.1 | 202.5 | 1.0 | | 13.6 | 19 | 2635 | 05 41 50 |
| 05 42 40 | =2307+106 | 00 14 54 | 46.0 | 202.8 | 1.1 | | 13.7 | 50 | 2641 | 05 41 51 |
| 05 42 40 | NGC7479 | 00 14 54 | 47.0 | 205.2 | 1.2 | | 15.2 | -19 | 2641 | No stop |
| 05 46 40 | --- | 00 18 54 | 46.8 | 206.6 | 1.2 | | 16.0 | 221 | 2672 | 05 42 41 |
| 05 46 40 | J2300+1037 | 00 18 54 | 44.8 | 207.5 | 1.3 | | 16.4 | -21 | 2672 | No stop |
| 05 48 20 | =2257+103 | 00 20 34 | 44.7 | 208.0 | 1.3 | | 16.7 | 79 | 2685 | 05 46 41 |
| 05 49 00 | J2310+1055 | 00 21 15 | 45.6 | 205.0 | 1.2 | | 15.0 | 19 | 2685 | 05 49 00 |
| 05 49 50 | =2307+106 | 00 22 05 | 45.6 | 205.3 | 1.2 | | 15.1 | 50 | 2691 | 05 49 01 |

Schedule for TORUN (Code Tr ) Page 13

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 05 49 50 | NGC7479 | 00 22 05 | 46.5 | 207.7 | 1.3 | | 16.6 | -19 | 2691 | No stop |
| 05 53 50 | --- | 00 26 05 | 46.3 | 209.0 | 1.3 | | 17.4 | 221 | 2722 | 05 49 51 |
| 05 53 50 | J2300+1037 | 00 26 05 | 44.3 | 209.9 | 1.4 | | 17.7 | -21 | 2722 | No stop |
| 05 55 30 | =2257+103 | 00 27 46 | 44.2 | 210.4 | 1.4 | | 18.0 | 79 | 2735 | 05 53 51 |
| 05 56 10 | J2310+1055 | 00 28 26 | 45.1 | 207.4 | 1.3 | | 16.3 | 19 | 2735 | 05 56 10 |
| 05 57 00 | =2307+106 | 00 29 16 | 45.1 | 207.7 | 1.3 | | 16.5 | 50 | 2741 | 05 56 11 |
| 05 57 00 | NGC7479 | 00 29 16 | 46.0 | 210.1 | 1.4 | | 18.0 | -19 | 2741 | No stop |
| 06 01 00 | --- | 00 33 17 | 45.7 | 211.4 | 1.5 | | 18.7 | 221 | 2772 | 05 57 01 |
| 06 01 00 | J2300+1037 | 00 33 17 | 43.7 | 212.2 | 1.5 | | 19.0 | -21 | 2772 | No stop |
| 06 02 40 | =2257+103 | 00 34 57 | 43.6 | 212.7 | 1.6 | | 19.3 | 79 | 2785 | 06 01 01 |
| 06 03 20 | J2310+1055 | 00 35 37 | 44.6 | 209.8 | 1.4 | | 17.7 | 19 | 2785 | 06 03 20 |
| 06 04 10 | =2307+106 | 00 36 27 | 44.6 | 210.0 | 1.4 | | 17.8 | 50 | 2791 | 06 03 21 |
| 06 04 10 | NGC7479 | 00 36 27 | 45.5 | 212.5 | 1.5 | | 19.3 | -19 | 2791 | No stop |
| 06 08 10 | --- | 00 40 28 | 45.1 | 213.8 | 1.6 | | 20.0 | 221 | 2822 | 06 04 11 |
| 06 08 10 | J2300+1037 | 00 40 28 | 43.2 | 214.5 | 1.7 | | 20.2 | -21 | 2822 | No stop |
| 06 09 50 | =2257+103 | 00 42 08 | 43.0 | 215.0 | 1.7 | | 20.5 | 79 | 2835 | 06 08 11 |
| 06 10 30 | J2310+1055 | 00 42 48 | 44.1 | 212.1 | 1.5 | | 19.0 | 19 | 2835 | 06 10 30 |
| 06 11 20 | =2307+106 | 00 43 38 | 44.0 | 212.4 | 1.5 | | 19.1 | 50 | 2841 | 06 10 31 |
| 06 16 20 | 3C454.3 | 00 48 39 | 46.9 | 222.1 | 1.9 | | 24.8 | 268 | 2841 | 06 16 20 |
| 06 19 20 | --- | 00 51 40 | 46.6 | 223.0 | 1.9 | | 25.3 | 180 | 2864 | 06 16 21 |
| 06 24 35 | J2310+1055 | 00 56 55 | 42.9 | 216.6 | 1.8 | | 21.4 | 284 | 2864 | 06 24 35 |
| 06 25 25 | =2307+106 | 00 58 01 | 42.8 | 216.9 | 1.8 | | 21.6 | 50 | 2871 | 06 24 36 |
| 06 25 25 | NGC7479 | 00 57 46 | 43.6 | 219.3 | 1.9 | | 22.9 | -19 | 2871 | No stop |
| 06 29 25 | --- | 01 01 46 | 43.2 | 220.5 | 1.9 | | 23.6 | 221 | 2901 | 06 25 26 |
| 06 29 25 | J2300+1037 | 01 01 46 | 41.2 | 221.0 | 2.0 | | 23.7 | -21 | 2901 | No stop |
| 06 31 05 | =2257+103 | 01 03 26 | 41.0 | 221.5 | 2.0 | | 23.9 | 79 | 2914 | 06 29 26 |
| 06 31 45 | J2310+1055 | 01 04 07 | 42.2 | 218.8 | 1.9 | | 22.5 | 20 | 2914 | 06 31 45 |
| 06 32 35 | =2307+106 | 01 04 57 | 42.1 | 219.1 | 1.9 | | 22.7 | 50 | 2921 | 06 31 46 |
| 06 32 35 | NGC7479 | 01 04 57 | 42.9 | 221.5 | 2.0 | | 24.0 | -19 | 2921 | No stop |
| 06 36 35 | --- | 01 08 57 | 42.5 | 222.7 | 2.1 | | 24.7 | 221 | 2951 | 06 32 36 |

Schedule for TORUN (Code Tr ) Page 14

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 06 36 35 | J2300+1037 | 01 08 57 | 40.5 | 223.2 | 2.1 | | 24.7 | -21 | 2951 | No stop |
| 06 38 15 | =2257+103 | 01 10 38 | 40.3 | 223.7 | 2.2 | | 25.0 | 79 | 2964 | 06 36 36 |
| 06 38 55 | J2310+1055 | 01 11 18 | 41.5 | 221.0 | 2.0 | | 23.7 | 20 | 2964 | 06 38 55 |
| 06 39 45 | =2307+106 | 01 12 08 | 41.4 | 221.2 | 2.0 | | 23.8 | 50 | 2971 | 06 38 56 |
| 06 39 45 | NGC7479 | 01 12 08 | 42.2 | 223.7 | 2.1 | | 25.1 | -19 | 2971 | No stop |
| 06 43 45 | --- | 01 16 09 | 41.7 | 224.9 | 2.2 | | 25.7 | 221 | 3001 | 06 39 46 |
| 06 43 45 | J2300+1037 | 01 16 09 | 39.7 | 225.2 | 2.3 | | 25.7 | -22 | 3001 | No stop |
| 06 45 25 | =2257+103 | 01 17 49 | 39.5 | 225.7 | 2.3 | | 26.0 | 78 | 3014 | 06 43 46 |
| 06 46 05 | J2310+1055 | 01 18 29 | 40.8 | 223.1 | 2.1 | | 24.7 | 20 | 3014 | 06 46 05 |
| 06 46 55 | =2307+106 | 01 19 19 | 40.7 | 223.4 | 2.1 | | 24.8 | 50 | 3021 | 06 46 06 |
| 06 46 55 | NGC7479 | 01 19 19 | 41.4 | 225.8 | 2.2 | | 26.2 | -19 | 3021 | No stop |
| 06 50 55 | --- | 01 23 20 | 41.0 | 227.0 | 2.3 | | 26.7 | 221 | 3051 | 06 46 56 |
| 06 50 55 | J2300+1037 | 01 23 20 | 38.9 | 227.3 | 2.4 | | 26.7 | -22 | 3051 | No stop |
| 06 52 35 | =2257+103 | 01 25 00 | 38.8 | 227.8 | 2.4 | | 26.9 | 78 | 3064 | 06 50 56 |
| 06 53 15 | J2310+1055 | 01 25 40 | 40.1 | 225.2 | 2.2 | | 25.7 | 20 | 3064 | 06 53 15 |
| 06 54 05 | =2307+106 | 01 26 30 | 40.0 | 225.5 | 2.3 | | 25.9 | 50 | 3071 | 06 53 16 |
| 06 54 05 | NGC7479 | 01 26 30 | 40.6 | 227.9 | 2.3 | | 27.1 | -19 | 3071 | No stop |
| 06 58 05 | --- | 01 30 31 | 40.2 | 229.0 | 2.4 | | 27.7 | 221 | 3101 | 06 54 06 |
| 06 58 05 | J2300+1037 | 01 30 31 | 38.1 | 229.3 | 2.5 | | 27.6 | -22 | 3101 | No stop |
| 06 59 45 | =2257+103 | 01 32 11 | 37.9 | 229.8 | 2.5 | | 27.8 | 78 | 3114 | 06 58 06 |
| 07 00 25 | J2310+1055 | 01 32 51 | 39.3 | 227.3 | 2.4 | | 26.7 | 21 | 3114 | 07 00 25 |
| 07 01 15 | =2307+106 | 01 33 41 | 39.2 | 227.5 | 2.4 | | 26.8 | 50 | 3121 | 07 00 26 |
| 07 01 15 | NGC7479 | 01 33 41 | 39.8 | 229.9 | 2.5 | | 28.1 | -19 | 3121 | No stop |
| 07 05 15 | --- | 01 37 42 | 39.3 | 231.0 | 2.5 | | 28.6 | 221 | 3151 | 07 01 16 |
| 07 05 15 | J2300+1037 | 01 37 42 | 37.3 | 231.3 | 2.6 | | 28.5 | -22 | 3151 | No stop |
| 07 06 55 | =2257+103 | 01 39 22 | 37.1 | 231.7 | 2.6 | | 28.7 | 78 | 3164 | 07 05 16 |
| 07 07 35 | J2310+1055 | 01 40 02 | 38.5 | 229.3 | 2.5 | | 27.6 | 21 | 3164 | 07 07 35 |
| 07 08 25 | =2307+106 | 01 40 53 | 38.4 | 229.5 | 2.5 | | 27.7 | 50 | 3171 | 07 07 36 |
| 07 08 25 | NGC7479 | 01 40 53 | 39.0 | 231.9 | 2.6 | | 28.9 | -19 | 3171 | No stop |
| 07 12 25 | --- | 01 44 53 | 38.5 | 233.0 | 2.7 | | 29.4 | 221 | 3201 | 07 08 26 |

Schedule for TORUN (Code Tr ) Page 15

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 07 12 25 | J2300+1037 | 01 44 53 | 36.5 | 233.2 | 2.7 | | 29.3 | -22 | 3201 | No stop |
| 07 14 05 | =2257+103 | 01 46 34 | 36.3 | 233.7 | 2.8 | | 29.5 | 78 | 3214 | 07 12 26 |
| 07 14 45 | J2310+1055 | 01 47 14 | 37.6 | 231.3 | 2.6 | | 28.5 | 21 | 3214 | 07 14 45 |
| 07 15 35 | =2307+106 | 01 48 04 | 37.5 | 231.5 | 2.6 | | 28.6 | 50 | 3221 | 07 14 46 |
| 07 15 35 | NGC7479 | 01 48 04 | 38.1 | 233.9 | 2.7 | | 29.8 | -19 | 3221 | No stop |
| 07 19 35 | --- | 01 52 04 | 37.6 | 234.9 | 2.8 | | 30.2 | 221 | 3251 | 07 15 36 |
| 07 19 35 | J2300+1037 | 01 52 04 | 35.6 | 235.1 | 2.9 | | 30.1 | -22 | 3251 | No stop |
| 07 21 15 | =2257+103 | 01 53 45 | 35.4 | 235.5 | 2.9 | | 30.3 | 78 | 3264 | 07 19 36 |
| 07 21 55 | J2310+1055 | 01 54 25 | 36.8 | 233.2 | 2.7 | | 29.3 | 21 | 3264 | 07 21 55 |
| 07 22 45 | =2307+106 | 01 55 15 | 36.7 | 233.4 | 2.7 | | 29.4 | 50 | 3271 | 07 21 56 |
| 07 22 45 | NGC7479 | 01 55 15 | 37.2 | 235.8 | 2.8 | | 30.6 | -19 | 3271 | No stop |
| 07 26 45 | --- | 01 59 16 | 36.7 | 236.8 | 2.9 | | 31.0 | 221 | 3301 | 07 22 46 |
| 07 26 45 | J2300+1037 | 01 59 16 | 34.7 | 237.0 | 3.0 | | 30.8 | -22 | 3301 | No stop |
| 07 28 25 | =2257+103 | 02 00 56 | 34.5 | 237.4 | 3.0 | | 31.0 | 78 | 3314 | 07 26 46 |
| 07 29 05 | J2310+1055 | 02 01 36 | 35.9 | 235.1 | 2.8 | | 30.1 | 21 | 3314 | 07 29 05 |
| 07 29 55 | =2307+106 | 02 02 26 | 35.8 | 235.3 | 2.9 | | 30.2 | 50 | 3321 | 07 29 06 |
| 07 29 55 | NGC7479 | 02 02 26 | 36.3 | 237.7 | 2.9 | | 31.3 | -19 | 3321 | No stop |
| 07 33 55 | --- | 02 06 27 | 35.8 | 238.7 | 3.0 | | 31.7 | 221 | 3351 | 07 29 56 |
| 07 33 55 | J2300+1037 | 02 06 27 | 33.8 | 238.8 | 3.1 | | 31.5 | -22 | 3351 | No stop |
| 07 35 35 | =2257+103 | 02 08 07 | 33.6 | 239.2 | 3.1 | | 31.7 | 78 | 3364 | 07 33 56 |
| 07 36 15 | J2310+1055 | 02 08 47 | 35.0 | 237.0 | 3.0 | | 30.9 | 21 | 3364 | 07 36 15 |
| 07 37 05 | =2307+106 | 02 09 37 | 34.9 | 237.2 | 3.0 | | 30.9 | 50 | 3371 | 07 36 16 |
| 07 37 05 | NGC7479 | 02 09 37 | 35.4 | 239.5 | 3.1 | | 32.0 | -19 | 3371 | No stop |
| 07 41 05 | --- | 02 13 38 | 34.9 | 240.5 | 3.1 | | 32.4 | 221 | 3401 | 07 37 06 |
| 07 41 05 | J2300+1037 | 02 13 38 | 32.8 | 240.6 | 3.2 | | 32.2 | -22 | 3401 | No stop |
| 07 42 45 | =2257+103 | 02 15 18 | 32.6 | 241.0 | 3.2 | | 32.3 | 78 | 3414 | 07 41 06 |
| 07 43 25 | J2310+1055 | 02 15 58 | 34.1 | 238.8 | 3.1 | | 31.6 | 21 | 3414 | 07 43 25 |
| 07 44 15 | =2307+106 | 02 16 48 | 34.0 | 239.0 | 3.1 | | 31.6 | 50 | 3421 | 07 43 26 |
| 07 44 15 | NGC7479 | 02 16 48 | 34.5 | 241.3 | 3.2 | | 32.6 | -19 | 3421 | No stop |
| 07 48 15 | --- | 02 20 49 | 33.9 | 242.3 | 3.3 | | 33.0 | 221 | 3451 | 07 44 16 |

Schedule for TORUN (Code Tr ) Page 16

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 07 48 15 | J2300+1037 | 02 20 49 | 31.9 | 242.3 | 3.3 | | 32.8 | -22 | 3451 | No stop |
| 07 49 55 | =2257+103 | 02 22 29 | 31.7 | 242.8 | 3.4 | | 32.9 | 78 | 3464 | 07 48 16 |
| 07 50 35 | J2310+1055 | 02 23 10 | 33.2 | 240.6 | 3.2 | | 32.2 | 21 | 3464 | 07 50 35 |
| 07 51 25 | =2307+106 | 02 24 00 | 33.1 | 240.8 | 3.2 | | 32.3 | 50 | 3471 | 07 50 36 |
| 07 51 25 | NGC7479 | 02 24 00 | 33.5 | 243.1 | 3.3 | | 33.2 | -19 | 3471 | No stop |
| 07 55 25 | --- | 02 28 00 | 33.0 | 244.1 | 3.4 | | 33.6 | 221 | 3501 | 07 51 26 |
| 07 55 25 | J2300+1037 | 02 28 00 | 30.9 | 244.1 | 3.4 | | 33.3 | -22 | 3501 | No stop |
| 07 57 05 | =2257+103 | 02 29 41 | 30.7 | 244.5 | 3.5 | | 33.5 | 78 | 3514 | 07 55 26 |
| 07 57 45 | J2310+1055 | 02 30 21 | 32.2 | 242.4 | 3.3 | | 32.8 | 20 | 3514 | 07 57 45 |
| 07 58 35 | =2307+106 | 02 31 11 | 32.1 | 242.6 | 3.3 | | 32.9 | 50 | 3521 | 07 57 46 |
| 07 58 35 | NGC7479 | 02 31 11 | 32.5 | 244.8 | 3.4 | | 33.8 | -19 | 3521 | No stop |
| 08 02 35 | --- | 02 35 11 | 32.0 | 245.8 | 3.5 | | 34.1 | 221 | 3551 | 07 58 36 |
| 08 02 35 | J2300+1037 | 02 35 11 | 29.9 | 245.8 | 3.6 | | 33.9 | -22 | 3551 | No stop |
| 08 04 15 | =2257+103 | 02 36 52 | 29.7 | 246.2 | 3.6 | | 34.0 | 78 | 3564 | 08 02 36 |
| 08 04 55 | J2310+1055 | 02 37 32 | 31.3 | 244.1 | 3.4 | | 33.4 | 20 | 3564 | 08 04 55 |
| 08 05 45 | =2307+106 | 02 38 22 | 31.1 | 244.3 | 3.5 | | 33.5 | 50 | 3571 | 08 04 56 |
| 08 05 45 | NGC7479 | 02 38 22 | 31.6 | 246.5 | 3.5 | | 34.3 | -19 | 3571 | No stop |
| 08 09 45 | --- | 02 42 23 | 31.0 | 247.5 | 3.6 | | 34.6 | 221 | 3601 | 08 05 46 |
| 08 09 45 | J2300+1037 | 02 42 23 | 29.0 | 247.5 | 3.7 | | 34.4 | -22 | 3601 | No stop |
| 08 11 25 | =2257+103 | 02 44 03 | 28.7 | 247.9 | 3.7 | | 34.5 | 78 | 3614 | 08 09 46 |
| 08 12 05 | J2310+1055 | 02 44 43 | 30.3 | 245.8 | 3.6 | | 33.9 | 20 | 3614 | 08 12 05 |
| 08 12 55 | =2307+106 | 02 45 33 | 30.2 | 246.0 | 3.6 | | 34.0 | 50 | 3621 | 08 12 06 |
| 08 17 55 | 3C454.3 | 02 50 34 | 31.4 | 254.5 | 3.9 | | 37.1 | 270 | 3621 | 08 17 55 |
| 08 20 55 | --- | 02 53 35 | 30.9 | 255.2 | 4.0 | | 37.2 | 180 | 3644 | 08 17 56 |
| 08 26 10 | J2310+1055 | 02 58 50 | 28.3 | 249.1 | 3.8 | | 34.9 | 286 | 3644 | 08 26 10 |
| 08 27 00 | =2307+106 | 02 59 56 | 28.2 | 249.4 | 3.8 | | 34.9 | 50 | 3650 | 08 26 11 |
| 08 27 00 | NGC7479 | 02 59 40 | 28.6 | 251.5 | 3.9 | | 35.7 | -18 | 3650 | No stop |
| 08 31 00 | --- | 03 03 41 | 28.0 | 252.4 | 4.0 | | 35.9 | 222 | 3681 | 08 27 01 |
| 08 31 00 | J2300+1037 | 03 03 41 | 26.0 | 252.3 | 4.0 | | 35.6 | -22 | 3681 | No stop |
| 08 32 40 | =2257+103 | 03 05 21 | 25.7 | 252.7 | 4.1 | | 35.7 | 78 | 3694 | 08 31 01 |

Schedule for TORUN (Code Tr ) Page 17

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 08 33 20 | J2310+1055 | 03 06 02 | 27.3 | 250.7 | 3.9 | | 35.3 | 20 | 3694 | 08 33 20 |
| 08 34 10 | =2307+106 | 03 06 52 | 27.2 | 250.9 | 3.9 | | 35.3 | 50 | 3700 | 08 33 21 |
| 08 34 10 | NGC7479 | 03 06 52 | 27.5 | 253.1 | 4.0 | | 36.0 | -18 | 3700 | No stop |
| 08 38 10 | --- | 03 10 52 | 27.0 | 254.0 | 4.1 | | 36.2 | 222 | 3731 | 08 34 11 |
| 08 38 10 | J2300+1037 | 03 10 52 | 24.9 | 253.9 | 4.2 | | 36.0 | -22 | 3731 | No stop |
| 08 39 50 | =2257+103 | 03 12 33 | 24.7 | 254.3 | 4.2 | | 36.0 | 78 | 3744 | 08 38 11 |
| 08 40 30 | J2310+1055 | 03 13 13 | 26.3 | 252.3 | 4.0 | | 35.7 | 20 | 3744 | 08 40 30 |
| 08 41 20 | =2307+106 | 03 14 03 | 26.2 | 252.5 | 4.0 | | 35.7 | 50 | 3750 | 08 40 31 |
| 08 41 20 | NGC7479 | 03 14 03 | 26.5 | 254.7 | 4.1 | | 36.4 | -18 | 3750 | No stop |
| 08 45 20 | --- | 03 18 04 | 25.9 | 255.5 | 4.2 | | 36.5 | 222 | 3781 | 08 41 21 |
| 08 45 20 | J2300+1037 | 03 18 04 | 23.9 | 255.5 | 4.3 | | 36.3 | -22 | 3781 | No stop |
| 08 47 00 | =2257+103 | 03 19 44 | 23.6 | 255.8 | 4.3 | | 36.3 | 78 | 3794 | 08 45 21 |
| 08 47 40 | J2310+1055 | 03 20 24 | 25.3 | 253.9 | 4.2 | | 36.0 | 20 | 3794 | 08 47 40 |
| 08 48 30 | =2307+106 | 03 21 14 | 25.1 | 254.1 | 4.2 | | 36.0 | 50 | 3800 | 08 47 41 |
| 08 48 30 | NGC7479 | 03 21 14 | 25.5 | 256.2 | 4.3 | | 36.7 | -18 | 3800 | No stop |
| 08 52 30 | --- | 03 25 15 | 24.9 | 257.1 | 4.3 | | 36.8 | 222 | 3831 | 08 48 31 |
| 08 52 30 | J2300+1037 | 03 25 15 | 22.8 | 257.0 | 4.4 | | 36.5 | -22 | 3831 | No stop |
| 08 54 10 | =2257+103 | 03 26 55 | 22.6 | 257.4 | 4.4 | | 36.6 | 78 | 3844 | 08 52 31 |
| 08 54 50 | J2310+1055 | 03 27 35 | 24.2 | 255.5 | 4.3 | | 36.3 | 20 | 3844 | 08 54 50 |
| 08 55 40 | =2307+106 | 03 28 25 | 24.1 | 255.7 | 4.3 | | 36.4 | 50 | 3850 | 08 54 51 |
| 08 55 40 | NGC7479 | 03 28 25 | 24.4 | 257.8 | 4.4 | | 36.9 | -18 | 3850 | No stop |
| 08 59 40 | --- | 03 32 26 | 23.8 | 258.6 | 4.4 | | 37.1 | 222 | 3881 | 08 55 41 |
| 08 59 40 | J2300+1037 | 03 32 26 | 21.8 | 258.5 | 4.5 | | 36.8 | -22 | 3881 | No stop |
| 09 01 20 | =2257+103 | 03 34 06 | 21.5 | 258.9 | 4.6 | | 36.8 | 78 | 3894 | 08 59 41 |
| 09 02 00 | J2310+1055 | 03 34 46 | 23.2 | 257.1 | 4.4 | | 36.6 | 20 | 3894 | 09 02 00 |
| 09 02 50 | =2307+106 | 03 35 36 | 23.0 | 257.2 | 4.4 | | 36.6 | 50 | 3900 | 09 02 01 |
| 09 02 50 | NGC7479 | 03 35 36 | 23.3 | 259.3 | 4.5 | | 37.2 | -18 | 3900 | No stop |
| 09 06 50 | --- | 03 39 37 | 22.8 | 260.2 | 4.6 | | 37.3 | 222 | 3931 | 09 02 51 |
| 09 06 50 | J2300+1037 | 03 39 37 | 20.7 | 260.0 | 4.6 | | 37.0 | -22 | 3931 | No stop |
| 09 08 30 | =2257+103 | 03 41 17 | 20.5 | 260.4 | 4.7 | | 37.1 | 78 | 3944 | 09 06 51 |

Schedule for TORUN (Code Tr ) Page 18

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 09 09 10 | J2310+1055 | 03 41 57 | 22.1 | 258.6 | 4.5 | | 36.8 | 20 | 3944 | 09 09 10 |
| 09 10 00 | =2307+106 | 03 42 48 | 22.0 | 258.8 | 4.5 | | 36.9 | 50 | 3950 | 09 09 11 |
| 09 10 00 | NGC7479 | 03 42 48 | 22.3 | 260.8 | 4.6 | | 37.4 | -18 | 3950 | No stop |
| 09 14 00 | --- | 03 46 48 | 21.7 | 261.7 | 4.7 | | 37.5 | 222 | 3981 | 09 10 01 |
| 09 14 00 | J2300+1037 | 03 46 48 | 19.7 | 261.5 | 4.8 | | 37.2 | -22 | 3981 | No stop |
| 09 15 40 | =2257+103 | 03 48 28 | 19.4 | 261.9 | 4.8 | | 37.2 | 78 | 3994 | 09 14 01 |
| 09 16 20 | J2310+1055 | 03 49 09 | 21.1 | 260.1 | 4.6 | | 37.1 | 20 | 3994 | 09 16 20 |
| 09 17 10 | =2307+106 | 03 49 59 | 20.9 | 260.3 | 4.6 | | 37.1 | 50 | 4000 | 09 16 21 |
| 09 17 10 | NGC7479 | 03 49 59 | 21.2 | 262.3 | 4.7 | | 37.5 | -18 | 4000 | No stop |
| 09 21 10 | --- | 03 53 59 | 20.6 | 263.2 | 4.8 | | 37.6 | 222 | 4031 | 09 17 11 |
| 09 21 10 | J2300+1037 | 03 53 59 | 18.6 | 263.0 | 4.9 | | 37.3 | -22 | 4031 | No stop |
| 09 22 50 | =2257+103 | 03 55 40 | 18.3 | 263.4 | 4.9 | | 37.4 | 78 | 4044 | 09 21 11 |
| 09 23 30 | J2310+1055 | 03 56 20 | 20.0 | 261.6 | 4.8 | | 37.2 | 20 | 4044 | 09 23 30 |
| 09 24 20 | =2307+106 | 03 57 10 | 19.9 | 261.8 | 4.8 | | 37.3 | 50 | 4050 | 09 23 31 |
| 09 24 20 | NGC7479 | 03 57 10 | 20.1 | 263.8 | 4.9 | | 37.7 | -18 | 4050 | No stop |
| 09 28 20 | --- | 04 01 11 | 19.5 | 264.6 | 4.9 | | 37.7 | 222 | 4081 | 09 24 21 |
| 09 28 20 | J2300+1037 | 04 01 11 | 17.5 | 264.5 | 5.0 | | 37.5 | -22 | 4081 | No stop |
| 09 30 00 | =2257+103 | 04 02 51 | 17.3 | 264.8 | 5.0 | | 37.5 | 78 | 4094 | 09 28 21 |
| 09 30 40 | J2310+1055 | 04 03 31 | 18.9 | 263.1 | 4.9 | | 37.4 | 20 | 4094 | 09 30 40 |
| 09 31 30 | =2307+106 | 04 04 21 | 18.8 | 263.3 | 4.9 | | 37.4 | 50 | 4100 | 09 30 41 |
| 09 31 30 | NGC7479 | 04 04 21 | 19.1 | 265.3 | 5.0 | | 37.8 | -18 | 4100 | No stop |
| 09 35 30 | --- | 04 08 22 | 18.5 | 266.1 | 5.0 | | 37.8 | 222 | 4131 | 09 31 31 |
| 09 35 30 | J2300+1037 | 04 08 22 | 16.4 | 266.0 | 5.1 | | 37.6 | -22 | 4131 | No stop |
| 09 37 10 | =2257+103 | 04 10 02 | 16.2 | 266.3 | 5.1 | | 37.6 | 78 | 4144 | 09 35 31 |
| 09 37 50 | J2310+1055 | 04 10 42 | 17.8 | 264.6 | 5.0 | | 37.5 | 20 | 4144 | 09 37 50 |
| 09 38 40 | =2307+106 | 04 11 32 | 17.7 | 264.7 | 5.0 | | 37.5 | 50 | 4150 | 09 37 51 |
| 09 38 40 | NGC7479 | 04 11 32 | 18.0 | 266.8 | 5.1 | | 37.9 | -18 | 4150 | No stop |
| 09 42 40 | --- | 04 15 33 | 17.4 | 267.6 | 5.2 | | 37.9 | 222 | 4181 | 09 38 41 |
| 09 42 40 | J2300+1037 | 04 15 33 | 15.4 | 267.4 | 5.2 | | 37.6 | -22 | 4181 | No stop |
| 09 44 20 | =2257+103 | 04 17 13 | 15.1 | 267.8 | 5.3 | | 37.6 | 78 | 4194 | 09 42 41 |

Schedule for TORUN (Code Tr ) Page 19

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 09 45 00 | J2310+1055 | 04 17 53 | 16.8 | 266.0 | 5.1 | | 37.6 | 20 | 4194 | 09 45 00 |
| 09 45 50 | =2307+106 | 04 18 43 | 16.6 | 266.2 | 5.1 | | 37.6 | 50 | 4200 | 09 45 01 |
| 09 45 50 | NGC7479 | 04 18 43 | 16.9 | 268.2 | 5.2 | | 37.9 | -18 | 4200 | No stop |
| 09 49 50 | --- | 04 22 44 | 16.3 | 269.0 | 5.3 | | 37.9 | 222 | 4231 | 09 45 51 |
| 09 49 50 | J2300+1037 | 04 22 44 | 14.3 | 268.9 | 5.4 | | 37.7 | -22 | 4231 | No stop |
| 09 51 30 | =2257+103 | 04 24 24 | 14.0 | 269.2 | 5.4 | | 37.7 | 78 | 4244 | 09 49 51 |
| 09 52 10 | J2310+1055 | 04 25 04 | 15.7 | 267.5 | 5.2 | | 37.7 | 20 | 4244 | 09 52 10 |
| 09 53 00 | =2307+106 | 04 25 55 | 15.6 | 267.6 | 5.2 | | 37.7 | 50 | 4250 | 09 52 11 |
| 09 53 00 | NGC7479 | 04 25 55 | 15.8 | 269.6 | 5.3 | | 37.9 | -18 | 4250 | No stop |
| 09 57 00 | --- | 04 29 55 | 15.2 | 270.5 | 5.4 | | 37.9 | 222 | 4281 | 09 53 01 |
| 09 57 00 | J2300+1037 | 04 29 55 | 13.2 | 270.3 | 5.5 | | 37.7 | -22 | 4281 | No stop |
| 09 58 40 | =2257+103 | 04 31 36 | 13.0 | 270.6 | 5.5 | | 37.7 | 78 | 4294 | 09 57 01 |
| 09 59 20 | J2310+1055 | 04 32 16 | 14.6 | 268.9 | 5.4 | | 37.7 | 20 | 4294 | 09 59 20 |
| 10 00 10 | =2307+106 | 04 33 06 | 14.5 | 269.1 | 5.4 | | 37.7 | 50 | 4300 | 09 59 21 |
| 10 00 10 | NGC7479 | 04 33 06 | 14.8 | 271.1 | 5.5 | | 37.9 | -18 | 4300 | No stop |
| 10 04 10 | --- | 04 37 06 | 14.2 | 271.9 | 5.5 | | 37.9 | 222 | 4331 | 10 00 11 |
| 10 04 10 | J2300+1037 | 04 37 06 | 12.1 | 271.7 | 5.6 | | 37.7 | -22 | 4331 | No stop |
| 10 05 50 | =2257+103 | 04 38 47 | 11.9 | 272.1 | 5.6 | | 37.6 | 78 | 4344 | 10 04 11 |
| 10 06 30 | J2310+1055 | 04 39 27 | 13.5 | 270.4 | 5.5 | | 37.7 | 20 | 4344 | 10 06 30 |
| 10 07 20 | =2307+106 | 04 40 17 | 13.4 | 270.5 | 5.5 | | 37.7 | 50 | 4350 | 10 06 31 |
| 10 07 20 | NGC7479 | 04 40 17 | 13.7 | 272.5 | 5.6 | | 37.9 | -18 | 4350 | No stop |
| 10 11 20 | --- | 04 44 18 | 13.1 | 273.3 | 5.6 | | 37.9 | 222 | 4381 | 10 07 21 |
| 10 11 20 | J2300+1037 | 04 44 18 | 11.1 | 273.2 | 5.7 | | 37.6 | -22 | 4381 | No stop |
| 10 13 00 | =2257+103 | 04 45 58 | 10.8 | 273.5 | 5.7 | | 37.6 | 78 | 4394 | 10 11 21 |
| 10 13 40 | J2310+1055 | 04 46 38 | 12.5 | 271.8 | 5.6 | | 37.7 | 20 | 4394 | 10 13 40 |
| 10 14 30 | =2307+106 | 04 47 28 | 12.3 | 272.0 | 5.6 | | 37.7 | 50 | 4400 | 10 13 41 |
| 10 19 30 | 3C454.3 | 04 52 29 | 13.2 | 279.5 | 6.0 | | 38.1 | 272 | 4400 | 10 19 30 |
| 10 22 30 | --- | 04 55 29 | 12.8 | 280.1 | 6.0 | | 38.0 | 180 | 4423 | 10 19 31 |
| 10 27 45 | J2310+1055 | 05 00 45 | 10.3 | 274.6 | 5.8 | | 37.6 | 287 | 4423 | 10 27 45 |
| 10 28 35 | =2307+106 | 05 01 51 | 10.2 | 274.8 | 5.8 | | 37.6 | 50 | 4429 | 10 27 46 |

Schedule for TORUN (Code Tr ) Page 20

Phase-refence VLBI on NGC7479 at 6cm

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 10 28 35 | NGC7479 | 05 01 35 | 10.5 | 276.7 | 5.9 | | 37.6 | -17 | 4429 | No stop |
| 10 32 35 | --- | 05 05 36 | 9.9 | 277.5 | 6.0 | | 37.6 | 223 | 4460 | 10 28 36 |
| 10 32 35 | J2300+1037 | 05 05 36 | 7.9 | 277.4 | 6.1 | | 37.3 | -22 | 4460 | No stop |
| 10 34 15 | =2257+103 | 05 07 16 | 7.6 | 277.7 | 6.1 | | 37.3 | 78 | 4473 | 10 32 36 |
| 10 34 55 | J2310+1055 | 05 07 57 | 9.3 | 276.0 | 5.9 | | 37.5 | 20 | 4473 | 10 34 55 |
| 10 35 45 | =2307+106 | 05 08 47 | 9.1 | 276.2 | 6.0 | | 37.5 | 50 | 4479 | 10 34 56 |
| 10 35 45 | NGC7479 | 05 08 47 | 9.4 | 278.1 | 6.1 | | 37.5 | -18 | 4479 | No stop |
| 10 39 45 | --- | 05 12 47 | 8.8 | 278.9 | 6.1 | | 37.4 | 222 | 4510 | 10 35 46 |
| 10 39 45 | J2300+1037 | 05 12 47 | 6.8 | 278.8 | 6.2 | | 37.2 | -22 | 4510 | No stop |
| 10 41 25 | =2257+103 | 05 14 28 | 6.5 | 279.1 | 6.2 | | 37.1 | 78 | 4523 | 10 39 46 |
| 10 42 05 | J2310+1055 | 05 15 08 | 8.2 | 277.4 | 6.1 | | 37.3 | 20 | 4523 | 10 42 05 |
| 10 42 55 | =2307+106 | 05 15 58 | 8.1 | 277.6 | 6.1 | | 37.3 | 50 | 4529 | 10 42 06 |

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: sess214.C1024
--- WARNING --- This group does not match an entry in the frequency catalog.
This might be ok because the catalog is not complete.
But be very careful to be sure that the setup is correct.

Setup group: 12 Station: TORUN Total bit rate: 1024
Format: MARK5B Bits per sample: 2 Sample rate: 32.000
Number of channels: 16 DBE type: DBBC_DDC Speedup factor: 1.00

Disk used to record data.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1st LO= | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 |
| | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 |
| Net SB= | L | L | U | U | L | L | U | U |
| | L | L | U | U | L | L | U | U |
| IF SB = | U | U | U | U | U | U | U | U |
| | U | U | U | U | U | U | U | U |
| Pol. = | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| BBC = | 1 | 5 | 1 | 5 | 2 | 6 | 2 | 6 |
| | 3 | 7 | 3 | 7 | 4 | 8 | 4 | 8 |
| BBC SB= | L | L | U | U | L | L | U | U |
| | L | L | U | U | L | L | U | U |
| IF = | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |
| | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |

```
 The following frequency sets based on these setups were used.

  Frequency Set:   6  Setup file default.  Used with PCAL = off
  LO sum=   4942.49  4942.49  4942.49  4942.49  4974.49  4974.49  4974.49  4974.49
            5006.49  5006.49  5006.49  5006.49  5038.49  5038.49  5038.49  5038.49
  BBC fr=    742.49   742.49   742.49   742.49   774.49   774.49   774.49   774.49
             806.49   806.49   806.49   806.49   838.49   838.49   838.49   838.49
  Bandwd=     16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
              16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
   Matching frequency sets:   6

  Track assignments are:
   track1=  18, 26,  2, 10, 20, 28,  4, 12, 22, 30,  6, 14, 24, 32,  8, 16
   barrel=roll_off

 POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                        Source position (RA/Dec)                        Error
                      (B1950)            (J2000)            (Date)            (mas)

* NGC7479          23 02 26.366401   * 23 04 56.632000     23 05 40.674867       0.00
                   12 03 10.64397    * 12 19 22.64400      12 24 02.90315        0.00

  J2202+4216       22 00 39.362504   * 22 02 43.291371     22 03 20.539913       0.14
* BLLAC            42 02 08.59073    * 42 16 39.97987      42 20 45.41763        0.10

  J2253+1608       22 51 29.519738   * 22 53 57.747937     22 54 41.309040       0.68
* 3C454.3          15 52 54.34810    * 16 08 53.56093      16 13 29.34902        0.72

* J2300+1037       22 57 47.790294   * 23 00 18.312542     23 01 02.433627       0.24
  2257+103         10 21 47.20831    * 10 37 54.08336      10 42 33.64015        0.49

* J2310+1055       23 07 57.541034   * 23 10 28.517736     23 11 12.718951       0.10
  2307+106         10 39 13.09625    * 10 55 30.69666      11 00 12.79713        0.11


EFFECT OF SOLAR CORONA

 The solar corona can cause unstable phases for sources too close to the Sun.
 SCHED provides warnings at individual scans for distances less than 10 degrees.
 The distance from the Sun to each source in this schedule is:
   Source         Sun distance (deg)
  NGC7479             87.8
  BLLAC               87.2
  3C454.3             88.7
  J2300+1037          89.5
  J2310+1055          87.1

 Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
 that the Sun will cause amplitude reductions on the  longest VLBA baselines
 at a solar distance of 60deg F^(-0.6) where F is in GHz.
 For common VLBI bands, this is:
      327 MHz        117. deg
      610 MHz         81. deg
      1.6 GHz         45. deg
      2.3 GHz         36. deg
      5.0 GHz         23. deg
      8.4 GHz         17. deg
     15.0 GHz         12. deg
     22.0 GHz          9. deg
     43.0 GHz          6. deg
```

# el051btr

VLBI observations of a HzRg in the center of a primordial galaxy cluster

PI: *E.Liuzzo*

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Phone: +39 051 639 9394 EMAIL: liuzzo@ira.inaf.it
Fax: +39 051 639 9431 Phone during observation: +39 347 143 0808

Observing mode: EVN+e-Merlin, 6cm, 1Gb/s

Schedule for TORUN (Code Tr ) Page 2
VLBI observations of a HzRg in the center of a primordial galaxy cluster
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| Next scan frequencies: | | 4942.49 | 4942.49 | 4942.49 | 4942.49 | 4974.49 | 4974.49 | 4974.49 | 4974.49 | |
| | | 5006.49 | 5006.49 | 5006.49 | 5006.49 | 5038.49 | 5038.49 | 5038.49 | 5038.49 | |
| Next BBC frequencies: | | 742.49 | 742.49 | 742.49 | 742.49 | 774.49 | 774.49 | 774.49 | 774.49 | |
| | | 806.49 | 806.49 | 806.49 | 806.49 | 838.49 | 838.49 | 838.49 | 838.49 | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | |
| | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | |
| 21 30 00 | J2005+7752 | 16 04 49 | 57.6 | 19.8 | -4.0 | | -103.6 | 0 | 0 | 21 30 00 |
| 21 40 00 | =2007+777 | 16 14 51 | 58.1 | 19.5 | -3.8 | | -106.2 | 600 | 77 | 21 30 01 |
| 21 42 00 | J1754+6452 | 16 16 51 | 73.0 | 36.8 | -1.6 | | -122.2 | 51 | 77 | 21 42 00 |
| 21 43 30 | =1753+648 | 16 18 21 | 73.1 | 36.5 | -1.6 | | -122.8 | 90 | 88 | 21 42 01 |
| 21 43 30 | 7C1756+6520 | 16 18 21 | 72.6 | 35.7 | -1.6 | | -122.8 | -13 | 88 | No stop |
| 21 47 00 | --- | 16 21 52 | 72.9 | 35.0 | -1.6 | | -124.3 | 197 | 115 | 21 43 31 |
| 21 47 30 | J1754+6452 | 16 22 22 | 73.5 | 35.7 | -1.5 | | -124.5 | 17 | 115 | 21 47 30 |
| 21 49 00 | =1753+648 | 16 23 52 | 73.6 | 35.3 | -1.5 | | -125.1 | 90 | 127 | 21 47 31 |
| 21 49 00 | 7C1756+6520 | 16 23 52 | 73.1 | 34.6 | -1.6 | | -125.1 | -13 | 127 | No stop |
| 21 52 30 | --- | 16 27 23 | 73.4 | 33.9 | -1.5 | | -126.6 | 197 | 154 | 21 49 01 |
| 21 52 30 | J1754+6452 | 16 27 23 | 73.9 | 34.6 | -1.4 | | -126.7 | -13 | 154 | No stop |
| 21 54 00 | =1753+648 | 16 28 53 | 74.0 | 34.2 | -1.4 | | -127.4 | 77 | 165 | 21 52 31 |
| 21 54 00 | 7C1756+6520 | 16 28 53 | 73.5 | 33.6 | -1.5 | | -127.3 | -13 | 165 | No stop |
| 21 57 30 | --- | 16 32 24 | 73.8 | 32.8 | -1.4 | | -128.9 | 197 | 192 | 21 54 01 |
| 21 58 00 | J1754+6452 | 16 32 54 | 74.4 | 33.2 | -1.4 | | -129.2 | 16 | 192 | 21 58 00 |
| 21 59 30 | =1753+648 | 16 34 24 | 74.5 | 32.9 | -1.3 | | -129.9 | 90 | 204 | 21 58 01 |
| 21 59 30 | 7C1756+6520 | 16 34 24 | 74.0 | 32.3 | -1.4 | | -129.8 | -13 | 204 | No stop |
| 22 03 00 | --- | 16 37 55 | 74.2 | 31.4 | -1.3 | | -131.4 | 197 | 231 | 21 59 31 |
| 22 03 00 | J1754+6452 | 16 37 55 | 74.8 | 31.9 | -1.3 | | -131.6 | -14 | 231 | No stop |
| 22 04 30 | =1753+648 | 16 39 25 | 74.9 | 31.5 | -1.2 | | -132.3 | 76 | 242 | 22 03 01 |

Schedule for TORUN (Code Tr ) Page 3

VLBI observations of a HzRg in the center of a primordial galaxy cluster

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 22 04 30 | 7C1756+6520 | 16 39 25 | 74.4 | 31.0 | -1.3 | | -132.1 | -13 | 242 | No stop |
| 22 08 00 | --- | 16 42 55 | 74.6 | 30.1 | -1.2 | | -133.8 | 197 | 269 | 22 04 31 |
| 22 08 30 | J1754+6452 | 16 43 25 | 75.2 | 30.4 | -1.2 | | -134.3 | 16 | 269 | 22 08 30 |
| 22 10 00 | =1753+648 | 16 44 56 | 75.3 | 30.0 | -1.2 | | -135.1 | 90 | 281 | 22 08 31 |
| 22 10 00 | 7C1756+6520 | 16 44 56 | 74.8 | 29.5 | -1.2 | | -134.8 | -13 | 281 | No stop |
| 22 13 30 | --- | 16 48 26 | 75.0 | 28.5 | -1.1 | | -136.6 | 197 | 308 | 22 10 01 |
| 22 13 30 | J1754+6452 | 16 48 26 | 75.6 | 28.9 | -1.1 | | -136.9 | -14 | 308 | No stop |
| 22 15 00 | =1753+648 | 16 49 57 | 75.7 | 28.4 | -1.1 | | -137.7 | 76 | 319 | 22 13 31 |
| 22 15 00 | 7C1756+6520 | 16 49 57 | 75.1 | 28.1 | -1.1 | | -137.4 | -14 | 319 | No stop |
| 22 18 30 | --- | 16 53 27 | 75.4 | 27.0 | -1.1 | | -139.2 | 196 | 346 | 22 15 01 |
| 22 19 00 | J1754+6452 | 16 53 57 | 76.0 | 27.1 | -1.0 | | -139.9 | 16 | 346 | 22 19 00 |
| 22 20 30 | =1753+648 | 16 55 27 | 76.1 | 26.6 | -1.0 | | -140.7 | 90 | 358 | 22 19 01 |
| 22 20 30 | 7C1756+6520 | 16 55 27 | 75.5 | 26.4 | -1.0 | | -140.3 | -14 | 358 | No stop |
| 22 24 00 | --- | 16 58 58 | 75.8 | 25.2 | -1.0 | | -142.2 | 196 | 385 | 22 20 31 |
| 22 24 00 | J1754+6452 | 16 58 58 | 76.3 | 25.4 | -0.9 | | -142.7 | -14 | 385 | No stop |
| 22 25 30 | =1753+648 | 17 00 28 | 76.4 | 24.8 | -0.9 | | -143.6 | 76 | 396 | 22 24 01 |
| 22 25 30 | 7C1756+6520 | 17 00 28 | 75.8 | 24.7 | -0.9 | | -143.0 | -14 | 396 | No stop |
| 22 29 00 | --- | 17 03 59 | 76.1 | 23.5 | -0.9 | | -145.0 | 196 | 423 | 22 25 31 |
| 22 29 30 | J1754+6452 | 17 04 29 | 76.7 | 23.3 | -0.8 | | -145.9 | 16 | 423 | 22 29 30 |
| 22 31 00 | =1753+648 | 17 05 59 | 76.7 | 22.8 | -0.8 | | -146.8 | 90 | 435 | 22 29 31 |
| 22 31 00 | 7C1756+6520 | 17 05 59 | 76.2 | 22.8 | -0.9 | | -146.2 | -14 | 435 | No stop |
| 22 34 30 | --- | 17 09 30 | 76.4 | 21.5 | -0.8 | | -148.2 | 196 | 462 | 22 31 01 |
| 22 34 30 | J1754+6452 | 17 09 30 | 76.9 | 21.4 | -0.7 | | -149.0 | -14 | 462 | No stop |
| 22 36 00 | =1753+648 | 17 11 00 | 77.0 | 20.8 | -0.7 | | -149.9 | 76 | 473 | 22 34 31 |
| 22 36 00 | 7C1756+6520 | 17 11 00 | 76.5 | 20.9 | -0.8 | | -149.1 | -14 | 473 | No stop |
| 22 39 30 | --- | 17 14 31 | 76.6 | 19.5 | -0.7 | | -151.2 | 196 | 500 | 22 36 01 |
| 22 40 00 | J1754+6452 | 17 15 01 | 77.2 | 19.1 | -0.7 | | -152.5 | 16 | 500 | 22 40 00 |
| 22 41 30 | =1753+648 | 17 16 31 | 77.3 | 18.4 | -0.6 | | -153.4 | 90 | 512 | 22 40 01 |
| 22 41 30 | 7C1756+6520 | 17 16 31 | 76.7 | 18.7 | -0.7 | | -152.5 | -14 | 512 | No stop |
| 22 45 00 | --- | 17 20 01 | 76.9 | 17.3 | -0.6 | | -154.7 | 196 | 538 | 22 41 31 |
| 22 45 00 | J1754+6452 | 17 20 01 | 77.5 | 16.9 | -0.6 | | -155.7 | -14 | 538 | No stop |
| 22 46 30 | =1753+648 | 17 21 32 | 77.5 | 16.2 | -0.5 | | -156.7 | 76 | 550 | 22 45 01 |

Schedule for TORUN (Code Tr ) Page 4

VLBI observations of a HzRg in the center of a primordial galaxy cluster

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 22 46 30 | 7C1756+6520 | 17 21 32 | 77.0 | 16.7 | -0.6 | | -155.6 | -14 | 550 | No stop |
| 22 50 00 | --- | 17 25 02 | 77.1 | 15.2 | -0.5 | | -157.9 | 196 | 577 | 22 46 31 |
| 22 50 30 | J1754+6452 | 17 25 32 | 77.7 | 14.4 | -0.5 | | -159.4 | 16 | 577 | 22 50 30 |
| 22 52 00 | =1753+648 | 17 27 03 | 77.7 | 13.7 | -0.5 | | -160.5 | 90 | 588 | 22 50 31 |
| 22 52 00 | 7C1756+6520 | 17 27 03 | 77.2 | 14.3 | -0.5 | | -159.2 | -13 | 588 | No stop |
| 22 55 30 | --- | 17 30 33 | 77.3 | 12.7 | -0.4 | | -161.5 | 197 | 615 | 22 52 01 |
| 22 55 30 | J1754+6452 | 17 30 33 | 77.9 | 12.0 | -0.4 | | -162.9 | -14 | 615 | No stop |
| 22 57 00 | =1753+648 | 17 32 03 | 77.9 | 11.3 | -0.4 | | -163.9 | 76 | 627 | 22 55 31 |
| 22 57 00 | 7C1756+6520 | 17 32 03 | 77.4 | 12.1 | -0.4 | | -162.5 | -13 | 627 | No stop |
| 23 00 30 | --- | 17 35 34 | 77.5 | 10.4 | -0.4 | | -164.9 | 197 | 654 | 22 57 01 |
| 23 01 00 | J1754+6452 | 17 36 04 | 78.0 | 9.3 | -0.3 | | -166.8 | 16 | 654 | 23 01 00 |
| 23 02 30 | =1753+648 | 17 37 34 | 78.0 | 8.6 | -0.3 | | -167.8 | 90 | 665 | 23 01 01 |
| 23 02 30 | 7C1756+6520 | 17 37 34 | 77.5 | 9.5 | -0.3 | | -166.3 | -13 | 665 | No stop |
| 23 06 00 | --- | 17 41 05 | 77.6 | 7.8 | -0.3 | | -168.7 | 197 | 692 | 23 02 31 |
| 23 06 00 | J1754+6452 | 17 41 05 | 78.1 | 6.8 | -0.2 | | -170.4 | -15 | 692 | No stop |
| 23 07 30 | =1753+648 | 17 42 35 | 78.1 | 6.0 | -0.2 | | -171.5 | 75 | 704 | 23 06 01 |
| 23 07 30 | 7C1756+6520 | 17 42 35 | 77.6 | 7.1 | -0.2 | | -169.7 | -14 | 704 | No stop |
| 23 11 00 | --- | 17 46 06 | 77.7 | 5.4 | -0.2 | | -172.2 | 196 | 731 | 23 07 31 |
| 23 11 30 | J1754+6452 | 17 46 36 | 78.2 | 4.0 | -0.1 | | -174.4 | 15 | 731 | 23 11 30 |
| 23 13 00 | =1753+648 | 17 48 06 | 78.2 | 3.2 | -0.1 | | -175.5 | 90 | 742 | 23 11 31 |
| 23 13 00 | 7C1756+6520 | 17 48 06 | 77.7 | 4.5 | -0.2 | | -173.6 | -15 | 742 | No stop |
| 23 16 30 | --- | 17 51 37 | 77.7 | 2.7 | -0.1 | | -176.1 | 195 | 769 | 23 13 01 |
| 23 16 30 | J1754+6452 | 17 51 37 | 78.2 | 1.4 | -0.0 | | -178.1 | -16 | 769 | No stop |
| 23 18 00 | =1753+648 | 17 53 07 | 78.2 | 0.6 | -0.0 | | -179.2 | 74 | 781 | 23 16 31 |
| 23 18 00 | 7C1756+6520 | 17 53 07 | 77.8 | 2.0 | -0.1 | | -177.1 | -15 | 781 | No stop |
| 23 21 30 | --- | 17 56 37 | 77.8 | 0.3 | -0.0 | | -179.6 | 195 | 808 | 23 18 01 |
| 23 22 00 | J1754+6452 | 17 57 08 | 78.2 | -1.5 | 0.0 | | 177.9 | 14 | 808 | 23 22 00 |
| 23 23 30 | =1753+648 | 17 58 38 | 78.2 | -2.3 | 0.1 | | 176.8 | 90 | 819 | 23 22 01 |
| 23 23 30 | 7C1756+6520 | 17 58 38 | 77.8 | -0.7 | 0.0 | | 179.0 | -16 | 819 | No stop |
| 23 27 00 | --- | 18 02 08 | 77.7 | -2.4 | 0.1 | | 176.5 | 194 | 846 | 23 23 31 |
| 23 27 00 | J1754+6452 | 18 02 08 | 78.2 | -4.1 | 0.1 | | 174.2 | -17 | 846 | No stop |
| 23 28 30 | =1753+648 | 18 03 39 | 78.2 | -4.9 | 0.2 | | 173.1 | 73 | 858 | 23 27 01 |

Schedule for TORUN (Code Tr ) Page 5

VLBI observations of a HzRg in the center of a primordial galaxy cluster

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 11 Jun 2014 Day 162 --- | | | | | | | | | | |
| 23 28 30 | 7C1756+6520 | 18 03 39 | 77.7 | -3.2 | 0.1 | | 175.4 | -16 | 858 | No stop |
| 23 32 00 | --- | 18 07 09 | 77.7 | -4.9 | 0.2 | | 173.0 | 194 | 885 | 23 28 31 |
| 23 32 30 | J1754+6452 | 18 07 39 | 78.1 | -6.9 | 0.2 | | 170.2 | 13 | 885 | 23 32 30 |
| 23 34 00 | =1753+648 | 18 09 09 | 78.1 | -7.7 | 0.2 | | 169.1 | 90 | 896 | 23 32 31 |
| 23 34 00 | 7C1756+6520 | 18 09 09 | 77.7 | -5.9 | 0.2 | | 171.6 | -17 | 896 | No stop |
| 23 37 30 | --- | 18 12 40 | 77.6 | -7.5 | 0.3 | | 169.1 | 193 | 923 | 23 34 01 |
| 23 37 30 | J1754+6452 | 18 12 40 | 78.0 | -9.4 | 0.3 | | 166.6 | -18 | 923 | No stop |
| 23 39 00 | =1753+648 | 18 14 10 | 78.0 | -10.2 | 0.3 | | 165.5 | 72 | 935 | 23 37 31 |
| 23 39 00 | 7C1756+6520 | 18 14 10 | 77.6 | -8.3 | 0.3 | | 168.1 | -17 | 935 | No stop |
| 23 42 30 | --- | 18 17 41 | 77.5 | -9.9 | 0.3 | | 165.7 | 193 | 962 | 23 39 01 |
| 23 43 00 | J1754+6452 | 18 18 11 | 77.8 | -12.1 | 0.4 | | 162.7 | 12 | 962 | 23 43 00 |
| 23 44 30 | =1753+648 | 18 19 41 | 77.8 | -12.9 | 0.4 | | 161.7 | 90 | 973 | 23 43 01 |
| 23 44 30 | 7C1756+6520 | 18 19 41 | 77.4 | -10.8 | 0.4 | | 164.3 | -17 | 973 | No stop |
| 23 48 00 | --- | 18 23 12 | 77.3 | -12.4 | 0.4 | | 161.9 | 193 | 1000 | 23 44 31 |
| 23 48 00 | J1754+6452 | 18 23 12 | 77.7 | -14.5 | 0.5 | | 159.2 | -18 | 1000 | No stop |
| 23 49 30 | =1753+648 | 18 24 42 | 77.6 | -15.2 | 0.5 | | 158.2 | 72 | 1012 | 23 48 01 |
| 23 49 30 | 7C1756+6520 | 18 24 42 | 77.3 | -13.1 | 0.5 | | 160.9 | -18 | 1012 | No stop |
| 23 53 00 | --- | 18 28 13 | 77.2 | -14.7 | 0.5 | | 158.6 | 192 | 1038 | 23 49 31 |
| 23 53 30 | J1754+6452 | 18 28 43 | 77.4 | -17.0 | 0.6 | | 155.5 | 12 | 1038 | 23 53 30 |
| 23 55 00 | =1753+648 | 18 30 13 | 77.4 | -17.7 | 0.6 | | 154.6 | 90 | 1050 | 23 53 31 |
| 23 55 00 | 7C1756+6520 | 18 30 13 | 77.1 | -15.5 | 0.6 | | 157.3 | -18 | 1050 | No stop |
| 23 58 30 | --- | 18 33 44 | 76.9 | -17.0 | 0.6 | | 155.1 | 192 | 1077 | 23 55 01 |
| 23 58 30 | J1754+6452 | 18 33 44 | 77.2 | -19.2 | 0.7 | | 152.3 | -18 | 1077 | No stop |
| 23 59 59 | =1753+648 | 18 35 14 | 77.1 | -19.8 | 0.7 | | 151.3 | 71 | 1088 | 23 58 31 |
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 00 00 00 | 7C1756+6520 | 18 35 14 | 76.9 | -17.7 | 0.6 | | 154.1 | -18 | 1088 | No stop |
| 00 03 30 | --- | 18 38 44 | 76.7 | -19.1 | 0.7 | | 151.9 | 192 | 1115 | 00 00 00 |
| 00 06 30 | J2005+7752 | 18 41 45 | 64.1 | 9.8 | -1.4 | | -150.8 | 107 | 1115 | 00 06 30 |
| 00 15 00 | =2007+777 | 18 50 16 | 64.3 | 8.9 | -1.2 | | -153.7 | 510 | 1181 | 00 06 31 |
| 00 17 00 | J1754+6452 | 18 52 17 | 76.1 | -26.4 | 1.0 | | 141.1 | 35 | 1181 | 00 17 00 |
| 00 18 30 | =1753+648 | 18 53 47 | 76.0 | -26.9 | 1.0 | | 140.3 | 90 | 1192 | 00 17 01 |

Schedule for TORUN (Code Tr ) Page 6

VLBI observations of a HzRg in the center of a primordial galaxy cluster

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 00 18 30 | 7C1756+6520 | 18 53 47 | 75.9 | -24.7 | 0.9 | | 143.1 | -18 | 1192 | No stop |
| 00 22 00 | --- | 18 57 17 | 75.6 | -25.8 | 1.0 | | 141.2 | 192 | 1219 | 00 18 31 |
| 00 22 30 | J1754+6452 | 18 57 47 | 75.7 | -28.2 | 1.1 | | 138.1 | 12 | 1219 | 00 22 30 |
| 00 24 00 | =1753+648 | 18 59 18 | 75.6 | -28.7 | 1.1 | | 137.3 | 90 | 1231 | 00 22 31 |
| 00 24 00 | 7C1756+6520 | 18 59 18 | 75.5 | -26.5 | 1.0 | | 140.1 | -18 | 1231 | No stop |
| 00 27 30 | --- | 19 02 48 | 75.3 | -27.6 | 1.1 | | 138.2 | 192 | 1258 | 00 24 01 |
| 00 27 30 | J1754+6452 | 19 02 48 | 75.4 | -29.7 | 1.1 | | 135.5 | -18 | 1258 | No stop |
| 00 29 00 | =1753+648 | 19 04 19 | 75.3 | -30.2 | 1.2 | | 134.7 | 72 | 1269 | 00 27 31 |
| 00 29 00 | 7C1756+6520 | 19 04 19 | 75.2 | -28.0 | 1.1 | | 137.4 | -18 | 1269 | No stop |
| 00 32 30 | --- | 19 07 49 | 74.9 | -29.1 | 1.2 | | 135.6 | 192 | 1296 | 00 29 01 |
| 00 33 00 | J1754+6452 | 19 08 19 | 75.0 | -31.3 | 1.2 | | 132.7 | 12 | 1296 | 00 33 00 |
| 00 34 30 | =1753+648 | 19 09 49 | 74.8 | -31.7 | 1.3 | | 131.9 | 90 | 1308 | 00 33 01 |
| 00 34 30 | 7C1756+6520 | 19 09 49 | 74.8 | -29.6 | 1.2 | | 134.6 | -18 | 1308 | No stop |
| 00 38 00 | --- | 19 13 20 | 74.5 | -30.6 | 1.3 | | 132.9 | 192 | 1335 | 00 34 31 |
| 00 38 00 | J1754+6452 | 19 13 20 | 74.6 | -32.7 | 1.3 | | 130.2 | -18 | 1335 | No stop |
| 00 39 30 | =1753+648 | 19 14 50 | 74.4 | -33.1 | 1.3 | | 129.5 | 72 | 1346 | 00 38 01 |
| 00 39 30 | 7C1756+6520 | 19 14 50 | 74.4 | -31.0 | 1.3 | | 132.2 | -18 | 1346 | No stop |
| 00 43 00 | --- | 19 18 21 | 74.1 | -31.9 | 1.4 | | 130.5 | 192 | 1373 | 00 39 31 |
| 00 43 30 | J1754+6452 | 19 18 51 | 74.1 | -34.0 | 1.4 | | 127.7 | 12 | 1373 | 00 43 30 |
| 00 45 00 | =1753+648 | 19 20 21 | 74.0 | -34.4 | 1.4 | | 127.0 | 90 | 1385 | 00 43 31 |
| 00 45 00 | 7C1756+6520 | 19 20 21 | 73.9 | -32.4 | 1.4 | | 129.6 | -18 | 1385 | No stop |
| 00 48 30 | --- | 19 23 52 | 73.7 | -33.2 | 1.4 | | 128.0 | 192 | 1412 | 00 45 01 |
| 00 48 30 | J1754+6452 | 19 23 52 | 73.7 | -35.2 | 1.5 | | 125.4 | -18 | 1412 | No stop |
| 00 50 00 | =1753+648 | 19 25 22 | 73.6 | -35.5 | 1.5 | | 124.8 | 72 | 1423 | 00 48 31 |
| 00 50 00 | 7C1756+6520 | 19 25 22 | 73.5 | -33.5 | 1.5 | | 127.4 | -17 | 1423 | No stop |
| 00 53 30 | --- | 19 28 53 | 73.2 | -34.3 | 1.5 | | 125.8 | 193 | 1450 | 00 50 01 |
| 00 54 00 | J1754+6452 | 19 29 23 | 73.2 | -36.3 | 1.6 | | 123.1 | 12 | 1450 | 00 54 00 |
| 00 55 30 | =1753+648 | 19 30 53 | 73.1 | -36.6 | 1.6 | | 122.5 | 90 | 1462 | 00 54 01 |
| 00 55 30 | 7C1756+6520 | 19 30 53 | 73.1 | -34.7 | 1.6 | | 125.0 | -17 | 1462 | No stop |
| 00 59 00 | --- | 19 34 23 | 72.8 | -35.4 | 1.6 | | 123.5 | 193 | 1488 | 00 55 31 |

Schedule for TORUN (Code Tr ) Page 7

VLBI observations of a HzRg in the center of a primordial galaxy cluster

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | Start / Stop EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 00 59 00 | J1754+6452 | 19 34 23 | 72.7 | -37.3 | 1.7 | | 121.0 | -17 | 1488 | No stop |
| 01 00 30 | =1753+648 | 19 35 54 | 72.6 | -37.6 | 1.7 | | 120.4 | 73 | 1500 | 00 59 01 |
| 01 00 30 | 7C1756+6520 | 19 35 54 | 72.6 | -35.7 | 1.6 | | 122.9 | -17 | 1500 | No stop |
| 01 04 00 | --- | 19 39 24 | 72.3 | -36.4 | 1.7 | | 121.5 | 193 | 1527 | 01 00 31 |
| 01 04 30 | J1754+6452 | 19 39 54 | 72.2 | -38.3 | 1.8 | | 118.9 | 13 | 1527 | 01 04 30 |
| 01 06 00 | =1753+648 | 19 41 25 | 72.1 | -38.5 | 1.8 | | 118.3 | 90 | 1538 | 01 04 31 |
| 01 06 00 | 7C1756+6520 | 19 41 25 | 72.1 | -36.7 | 1.7 | | 120.7 | -17 | 1538 | No stop |
| 01 09 30 | --- | 19 44 55 | 71.8 | -37.3 | 1.8 | | 119.3 | 193 | 1565 | 01 06 01 |
| 01 09 30 | J1754+6452 | 19 44 55 | 71.8 | -39.1 | 1.8 | | 117.0 | -17 | 1565 | No stop |
| 01 11 00 | =1753+648 | 19 46 25 | 71.6 | -39.3 | 1.9 | | 116.4 | 73 | 1577 | 01 09 31 |
| 01 11 00 | 7C1756+6520 | 19 46 25 | 71.7 | -37.5 | 1.8 | | 118.7 | -17 | 1577 | No stop |
| 01 14 30 | --- | 19 49 56 | 71.4 | -38.1 | 1.9 | | 117.4 | 193 | 1604 | 01 11 01 |
| 01 15 00 | J1754+6452 | 19 50 26 | 71.2 | -39.9 | 1.9 | | 114.9 | 13 | 1604 | 01 15 00 |
| 01 16 30 | =1753+648 | 19 51 56 | 71.1 | -40.1 | 2.0 | | 114.4 | 90 | 1615 | 01 15 01 |
| 01 16 30 | 7C1756+6520 | 19 51 56 | 71.2 | -38.4 | 1.9 | | 116.7 | -17 | 1615 | No stop |
| 01 20 00 | --- | 19 55 27 | 70.8 | -38.9 | 2.0 | | 115.4 | 193 | 1642 | 01 16 31 |
| 01 20 00 | J1754+6452 | 19 55 27 | 70.8 | -40.6 | 2.0 | | 113.2 | -17 | 1642 | No stop |
| 01 21 30 | =1753+648 | 19 56 57 | 70.6 | -40.7 | 2.0 | | 112.7 | 73 | 1654 | 01 20 01 |
| 01 21 30 | 7C1756+6520 | 19 56 57 | 70.7 | -39.1 | 2.0 | | 114.9 | -16 | 1654 | No stop |
| 01 25 00 | --- | 20 00 28 | 70.4 | -39.5 | 2.1 | | 113.7 | 194 | 1681 | 01 21 31 |
| 01 25 30 | J1754+6452 | 20 00 58 | 70.2 | -41.2 | 2.1 | | 111.3 | 13 | 1681 | 01 25 30 |
| 01 27 00 | =1753+648 | 20 02 28 | 70.1 | -41.4 | 2.1 | | 110.8 | 90 | 1692 | 01 25 31 |
| 01 27 00 | 7C1756+6520 | 20 02 28 | 70.2 | -39.8 | 2.1 | | 113.0 | -16 | 1692 | No stop |
| 01 30 30 | --- | 20 05 59 | 69.8 | -40.2 | 2.1 | | 111.8 | 194 | 1719 | 01 27 01 |
| 01 30 30 | J1754+6452 | 20 05 59 | 69.7 | -41.8 | 2.2 | | 109.7 | -16 | 1719 | No stop |
| 01 32 00 | =1753+648 | 20 07 29 | 69.6 | -41.9 | 2.2 | | 109.2 | 74 | 1731 | 01 30 31 |
| 01 32 00 | 7C1756+6520 | 20 07 29 | 69.7 | -40.4 | 2.2 | | 111.3 | -16 | 1731 | No stop |
| 01 35 30 | --- | 20 10 59 | 69.4 | -40.7 | 2.2 | | 110.2 | 194 | 1758 | 01 32 01 |
| 01 36 00 | J1754+6452 | 20 11 30 | 69.2 | -42.3 | 2.3 | | 107.9 | 14 | 1758 | 01 36 00 |
| 01 37 30 | =1753+648 | 20 13 00 | 69.0 | -42.4 | 2.3 | | 107.4 | 90 | 1769 | 01 36 01 |

Schedule for TORUN (Code Tr ) Page 8

VLBI observations of a HzRg in the center of a primordial galaxy cluster

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | Start / Stop EL | Start / Stop AZ | Start / Stop HA | Start / Stop UP | Start / Stop ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 01 37 30 | 7C1756+6520 | 20 13 00 | 69.2 | -40.9 | 2.3 | | 109.5 | -16 | 1769 | No stop |
| 01 41 00 | --- | 20 16 30 | 68.8 | -41.3 | 2.3 | | 108.4 | 194 | 1796 | 01 37 31 |
| 01 41 00 | J1754+6452 | 20 16 30 | 68.7 | -42.7 | 2.4 | | 106.4 | -16 | 1796 | No stop |
| 01 42 30 | =1753+648 | 20 18 01 | 68.5 | -42.9 | 2.4 | | 105.9 | 74 | 1808 | 01 41 01 |
| 01 42 30 | 7C1756+6520 | 20 18 01 | 68.7 | -41.4 | 2.3 | | 107.9 | -16 | 1808 | No stop |
| 01 46 00 | --- | 20 21 31 | 68.3 | -41.7 | 2.4 | | 106.9 | 194 | 1835 | 01 42 31 |
| 01 46 30 | J1754+6452 | 20 22 01 | 68.1 | -43.2 | 2.5 | | 104.7 | 14 | 1835 | 01 46 30 |
| 01 48 00 | =1753+648 | 20 23 32 | 67.9 | -43.3 | 2.5 | | 104.3 | 90 | 1846 | 01 46 31 |
| 01 48 00 | 7C1756+6520 | 20 23 32 | 68.1 | -41.9 | 2.4 | | 106.3 | -16 | 1846 | No stop |
| 01 51 30 | --- | 20 27 02 | 67.8 | -42.1 | 2.5 | | 105.2 | 194 | 1873 | 01 48 01 |
| 01 51 30 | J1754+6452 | 20 27 02 | 67.6 | -43.5 | 2.5 | | 103.3 | -16 | 1873 | No stop |
| 01 53 00 | =1753+648 | 20 28 32 | 67.4 | -43.6 | 2.6 | | 102.8 | 74 | 1885 | 01 51 31 |
| 01 53 00 | 7C1756+6520 | 20 28 32 | 67.6 | -42.2 | 2.5 | | 104.8 | -15 | 1885 | No stop |
| 01 56 30 | --- | 20 32 03 | 67.3 | -42.5 | 2.6 | | 103.8 | 195 | 1912 | 01 53 01 |
| 01 57 00 | J1754+6452 | 20 32 33 | 67.0 | -43.8 | 2.6 | | 101.7 | 15 | 1912 | 01 57 00 |
| 01 58 30 | =1753+648 | 20 34 03 | 66.8 | -43.9 | 2.7 | | 101.3 | 90 | 1923 | 01 57 01 |
| 01 58 30 | 7C1756+6520 | 20 34 03 | 67.0 | -42.6 | 2.6 | | 103.2 | -15 | 1923 | No stop |
| 02 02 00 | --- | 20 37 34 | 66.7 | -42.8 | 2.7 | | 102.2 | 195 | 1950 | 01 58 31 |
| 02 02 00 | J1754+6452 | 20 37 34 | 66.5 | -44.1 | 2.7 | | 100.3 | -15 | 1950 | No stop |
| 02 03 30 | =1753+648 | 20 39 04 | 66.3 | -44.2 | 2.7 | | 99.9 | 75 | 1962 | 02 02 01 |
| 02 03 30 | 7C1756+6520 | 20 39 04 | 66.5 | -42.9 | 2.7 | | 101.8 | -15 | 1962 | No stop |
| 02 07 00 | --- | 20 42 35 | 66.2 | -43.0 | 2.8 | | 100.8 | 195 | 1988 | 02 03 31 |
| 02 07 30 | J1754+6452 | 20 43 05 | 65.9 | -44.3 | 2.8 | | 98.9 | 15 | 1988 | 02 07 30 |
| 02 09 00 | =1753+648 | 20 44 35 | 65.7 | -44.4 | 2.8 | | 98.5 | 90 | 2000 | 02 07 31 |
| 02 09 00 | 7C1756+6520 | 20 44 35 | 66.0 | -43.1 | 2.8 | | 100.3 | -15 | 2000 | No stop |
| 02 12 30 | --- | 20 48 06 | 65.6 | -43.3 | 2.8 | | 99.4 | 195 | 2027 | 02 09 01 |
| 02 12 30 | J1754+6452 | 20 48 06 | 65.4 | -44.5 | 2.9 | | 97.6 | -15 | 2027 | No stop |
| 02 14 00 | =1753+648 | 20 49 36 | 65.2 | -44.6 | 2.9 | | 97.2 | 75 | 2038 | 02 12 31 |
| 02 14 00 | 7C1756+6520 | 20 49 36 | 65.5 | -43.4 | 2.9 | | 99.0 | -15 | 2038 | No stop |
| 02 17 30 | --- | 20 53 06 | 65.1 | -43.5 | 2.9 | | 98.0 | 195 | 2065 | 02 14 01 |

Schedule for TORUN (Code Tr ) Page 9

VLBI observations of a HzRg in the center of a primordial galaxy cluster

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 02 18 00 | J1754+6452 | 20 53 36 | 64.8 | -44.7 | 3.0 | | 96.2 | 15 | 2065 | 02 18 00 |
| 02 19 30 | =1753+648 | 20 55 07 | 64.6 | -44.7 | 3.0 | | 95.8 | 90 | 2077 | 02 18 01 |
| 02 19 30 | 7C1756+6520 | 20 55 07 | 64.9 | -43.6 | 3.0 | | 97.5 | -15 | 2077 | No stop |
| 02 23 00 | --- | 20 58 37 | 64.5 | -43.7 | 3.0 | | 96.6 | 195 | 2104 | 02 19 31 |
| 02 23 00 | J1754+6452 | 20 58 37 | 64.3 | -44.8 | 3.1 | | 94.9 | -15 | 2104 | No stop |
| 02 24 30 | =1753+648 | 21 00 08 | 64.1 | -44.8 | 3.1 | | 94.6 | 75 | 2115 | 02 23 01 |
| 02 24 30 | 7C1756+6520 | 21 00 08 | 64.4 | -43.7 | 3.0 | | 96.3 | -15 | 2115 | No stop |
| 02 28 00 | --- | 21 03 38 | 64.0 | -43.8 | 3.1 | | 95.4 | 195 | 2142 | 02 24 31 |
| 02 28 30 | J1754+6452 | 21 04 08 | 63.7 | -44.9 | 3.2 | | 93.6 | 16 | 2142 | 02 28 30 |
| 02 30 00 | =1753+648 | 21 05 38 | 63.5 | -44.9 | 3.2 | | 93.2 | 90 | 2154 | 02 28 31 |
| 02 30 00 | 7C1756+6520 | 21 05 38 | 63.8 | -43.8 | 3.1 | | 94.9 | -14 | 2154 | No stop |
| 02 33 30 | --- | 21 09 09 | 63.4 | -43.9 | 3.2 | | 94.0 | 196 | 2181 | 02 30 01 |
| 02 33 30 | J1754+6452 | 21 09 09 | 63.1 | -45.0 | 3.2 | | 92.4 | -14 | 2181 | No stop |
| 02 35 00 | =1753+648 | 21 10 39 | 63.0 | -45.0 | 3.3 | | 92.1 | 76 | 2192 | 02 33 31 |
| 02 35 00 | 7C1756+6520 | 21 10 39 | 63.3 | -43.9 | 3.2 | | 93.7 | -14 | 2192 | No stop |
| 02 38 30 | --- | 21 14 10 | 62.9 | -44.0 | 3.3 | | 92.8 | 196 | 2219 | 02 35 01 |
| 02 39 00 | J1754+6452 | 21 14 40 | 62.6 | -45.0 | 3.3 | | 91.1 | 16 | 2219 | 02 39 00 |
| 02 40 30 | =1753+648 | 21 16 10 | 62.4 | -45.0 | 3.4 | | 90.8 | 90 | 2231 | 02 39 01 |
| 02 40 30 | 7C1756+6520 | 21 16 10 | 62.7 | -44.0 | 3.3 | | 92.4 | -14 | 2231 | No stop |
| 02 44 00 | --- | 21 19 41 | 62.3 | -44.0 | 3.4 | | 91.5 | 196 | 2258 | 02 40 31 |
| 02 44 00 | J1754+6452 | 21 19 41 | 62.0 | -45.0 | 3.4 | | 90.0 | -14 | 2258 | No stop |
| 02 45 30 | =1753+648 | 21 21 11 | 61.9 | -45.0 | 3.4 | | 89.6 | 76 | 2269 | 02 44 01 |
| 02 45 30 | 7C1756+6520 | 21 21 11 | 62.2 | -44.0 | 3.4 | | 91.2 | -14 | 2269 | No stop |
| 02 49 00 | --- | 21 24 42 | 61.8 | -44.0 | 3.5 | | 90.4 | 196 | 2296 | 02 45 31 |
| 02 49 30 | J1754+6452 | 21 25 12 | 61.4 | -45.0 | 3.5 | | 88.7 | 16 | 2296 | 02 49 30 |
| 02 51 00 | =1753+648 | 21 26 42 | 61.3 | -45.0 | 3.5 | | 88.4 | 90 | 2308 | 02 49 31 |
| 02 51 00 | 7C1756+6520 | 21 26 42 | 61.6 | -44.0 | 3.5 | | 89.9 | -14 | 2308 | No stop |
| 02 54 30 | --- | 21 30 12 | 61.2 | -44.0 | 3.6 | | 89.1 | 196 | 2335 | 02 51 01 |
| 02 54 30 | J1754+6452 | 21 30 12 | 60.9 | -45.0 | 3.6 | | 87.6 | -14 | 2335 | No stop |
| 02 56 00 | =1753+648 | 21 31 43 | 60.8 | -45.0 | 3.6 | | 87.3 | 76 | 2346 | 02 54 31 |

Schedule for TORUN (Code Tr ) Page 10

VLBI observations of a HzRg in the center of a primordial galaxy cluster

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 02 56 00 | 7C1756+6520 | 21 31 43 | 61.1 | -44.0 | 3.6 | | 88.8 | -14 | 2346 | No stop |
| 02 59 30 | --- | 21 35 13 | 60.7 | -44.0 | 3.6 | | 88.0 | 196 | 2373 | 02 56 01 |
| 03 02 30 | J2005+7752 | 21 38 14 | 63.8 | -10.8 | 1.6 | | 147.5 | 98 | 2373 | 03 02 30 |
| 03 11 30 | =2007+777 | 21 47 15 | 63.5 | -11.7 | 1.7 | | 144.5 | 540 | 2442 | 03 02 31 |
| 03 13 30 | J1754+6452 | 21 49 16 | 58.9 | -44.7 | 3.9 | | 83.6 | 39 | 2442 | 03 13 30 |
| 03 15 00 | =1753+648 | 21 50 46 | 58.7 | -44.6 | 3.9 | | 83.3 | 90 | 2454 | 03 13 31 |
| 03 15 00 | 7C1756+6520 | 21 50 46 | 59.1 | -43.8 | 3.9 | | 84.7 | -13 | 2454 | No stop |
| 03 18 30 | --- | 21 54 16 | 58.7 | -43.7 | 4.0 | | 83.9 | 197 | 2481 | 03 15 01 |
| 03 19 00 | J1754+6452 | 21 54 46 | 58.3 | -44.5 | 4.0 | | 82.5 | 17 | 2481 | 03 19 00 |
| 03 20 30 | =1753+648 | 21 56 17 | 58.2 | -44.5 | 4.0 | | 82.2 | 90 | 2492 | 03 19 01 |
| 03 20 30 | 7C1756+6520 | 21 56 17 | 58.5 | -43.7 | 4.0 | | 83.5 | -13 | 2492 | No stop |
| 03 24 00 | --- | 21 59 47 | 58.2 | -43.6 | 4.0 | | 82.8 | 197 | 2519 | 03 20 31 |
| 03 24 00 | J1754+6452 | 21 59 47 | 57.8 | -44.4 | 4.1 | | 81.4 | -13 | 2519 | No stop |
| 03 25 30 | =1753+648 | 22 01 18 | 57.6 | -44.3 | 4.1 | | 81.1 | 77 | 2531 | 03 24 01 |
| 03 25 30 | 7C1756+6520 | 22 01 18 | 58.0 | -43.6 | 4.1 | | 82.5 | -13 | 2531 | No stop |
| 03 29 00 | --- | 22 04 48 | 57.6 | -43.5 | 4.1 | | 81.8 | 197 | 2558 | 03 25 31 |
| 03 29 30 | J1754+6452 | 22 05 18 | 57.2 | -44.2 | 4.2 | | 80.3 | 17 | 2558 | 03 29 30 |
| 03 31 00 | =1753+648 | 22 06 48 | 57.1 | -44.2 | 4.2 | | 80.0 | 90 | 2569 | 03 29 31 |
| 03 31 00 | 7C1756+6520 | 22 06 48 | 57.4 | -43.4 | 4.2 | | 81.4 | -13 | 2569 | No stop |
| 03 34 30 | --- | 22 10 19 | 57.1 | -43.3 | 4.2 | | 80.6 | 197 | 2596 | 03 31 01 |
| 03 34 30 | J1754+6452 | 22 10 19 | 56.7 | -44.0 | 4.3 | | 79.4 | -13 | 2596 | No stop |
| 03 36 00 | =1753+648 | 22 11 49 | 56.5 | -44.0 | 4.3 | | 79.1 | 77 | 2608 | 03 34 31 |
| 03 36 00 | 7C1756+6520 | 22 11 49 | 56.9 | -43.2 | 4.2 | | 80.3 | -13 | 2608 | No stop |
| 03 39 30 | --- | 22 15 20 | 56.6 | -43.1 | 4.3 | | 79.6 | 197 | 2635 | 03 36 01 |
| 03 40 00 | J1754+6452 | 22 15 50 | 56.1 | -43.8 | 4.4 | | 78.3 | 17 | 2635 | 03 40 00 |
| 03 41 30 | =1753+648 | 22 17 20 | 56.0 | -43.8 | 4.4 | | 78.0 | 90 | 2646 | 03 40 01 |
| 03 41 30 | 7C1756+6520 | 22 17 20 | 56.3 | -43.1 | 4.3 | | 79.2 | -13 | 2646 | No stop |
| 03 45 00 | --- | 22 20 51 | 56.0 | -42.9 | 4.4 | | 78.6 | 197 | 2673 | 03 41 31 |
| 03 45 00 | J1754+6452 | 22 20 51 | 55.6 | -43.6 | 4.4 | | 77.3 | -12 | 2673 | No stop |
| 03 46 30 | =1753+648 | 22 22 21 | 55.4 | -43.6 | 4.5 | | 77.0 | 78 | 2685 | 03 45 01 |

Schedule for TORUN (Code Tr ) Page 11

VLBI observations of a HzRg in the center of a primordial galaxy cluster

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 03 46 30 | 7C1756+6520 | 22 22 21 | 55.8 | -42.9 | 4.4 | | 78.3 | -12 | 2685 | No stop |
| 03 50 00 | --- | 22 25 52 | 55.5 | -42.7 | 4.5 | | 77.6 | 198 | 2712 | 03 46 31 |
| 03 50 30 | J1754+6452 | 22 26 22 | 55.0 | -43.4 | 4.5 | | 76.3 | 18 | 2712 | 03 50 30 |
| 03 52 00 | =1753+648 | 22 27 52 | 54.9 | -43.3 | 4.6 | | 76.0 | 90 | 2723 | 03 50 31 |
| 03 52 00 | 7C1756+6520 | 22 27 52 | 55.3 | -42.7 | 4.5 | | 77.2 | -12 | 2723 | No stop |
| 03 55 30 | --- | 22 31 22 | 54.9 | -42.5 | 4.6 | | 76.5 | 198 | 2750 | 03 52 01 |
| 03 55 30 | J1754+6452 | 22 31 22 | 54.5 | -43.2 | 4.6 | | 75.3 | -13 | 2750 | No stop |
| 03 57 00 | =1753+648 | 22 32 53 | 54.3 | -43.1 | 4.6 | | 75.0 | 77 | 2762 | 03 55 31 |
| 03 57 00 | 7C1756+6520 | 22 32 53 | 54.8 | -42.5 | 4.6 | | 76.2 | -12 | 2762 | No stop |
| 04 00 30 | --- | 22 36 23 | 54.4 | -42.3 | 4.7 | | 75.5 | 198 | 2788 | 03 57 01 |
| 04 01 00 | J1754+6452 | 22 36 53 | 53.9 | -42.9 | 4.7 | | 74.3 | 17 | 2788 | 04 01 00 |
| 04 02 30 | =1753+648 | 22 38 24 | 53.8 | -42.8 | 4.7 | | 74.0 | 90 | 2800 | 04 01 01 |
| 04 02 30 | 7C1756+6520 | 22 38 24 | 54.2 | -42.2 | 4.7 | | 75.2 | -12 | 2800 | No stop |
| 04 06 00 | --- | 22 41 54 | 53.9 | -42.0 | 4.7 | | 74.5 | 198 | 2827 | 04 02 31 |
| 04 06 00 | J1754+6452 | 22 41 54 | 53.4 | -42.7 | 4.8 | | 73.3 | -13 | 2827 | No stop |
| 04 07 30 | =1753+648 | 22 43 24 | 53.3 | -42.6 | 4.8 | | 73.1 | 77 | 2838 | 04 06 01 |
| 04 07 30 | 7C1756+6520 | 22 43 24 | 53.7 | -42.0 | 4.8 | | 74.2 | -12 | 2838 | No stop |
| 04 11 00 | --- | 22 46 55 | 53.4 | -41.8 | 4.8 | | 73.6 | 198 | 2865 | 04 07 31 |
| 04 11 30 | J1754+6452 | 22 47 25 | 52.9 | -42.4 | 4.9 | | 72.3 | 17 | 2865 | 04 11 30 |
| 04 13 00 | =1753+648 | 22 48 55 | 52.7 | -42.3 | 4.9 | | 72.0 | 90 | 2877 | 04 11 31 |
| 04 13 00 | 7C1756+6520 | 22 48 55 | 53.2 | -41.7 | 4.9 | | 73.2 | -13 | 2877 | No stop |
| 04 16 30 | --- | 22 52 26 | 52.8 | -41.5 | 4.9 | | 72.5 | 197 | 2904 | 04 13 01 |
| 04 16 30 | J1754+6452 | 22 52 26 | 52.4 | -42.1 | 5.0 | | 71.4 | -13 | 2904 | No stop |
| 04 18 00 | =1753+648 | 22 53 56 | 52.2 | -42.0 | 5.0 | | 71.1 | 77 | 2915 | 04 16 31 |
| 04 18 00 | 7C1756+6520 | 22 53 56 | 52.7 | -41.4 | 4.9 | | 72.2 | -13 | 2915 | No stop |
| 04 21 30 | --- | 22 57 27 | 52.3 | -41.3 | 5.0 | | 71.6 | 197 | 2942 | 04 18 01 |
| 04 22 00 | J1754+6452 | 22 57 57 | 51.8 | -41.8 | 5.1 | | 70.4 | 17 | 2942 | 04 22 00 |
| 04 23 30 | =1753+648 | 22 59 27 | 51.7 | -41.7 | 5.1 | | 70.1 | 90 | 2954 | 04 22 01 |
| 04 23 30 | 7C1756+6520 | 22 59 27 | 52.1 | -41.2 | 5.0 | | 71.2 | -13 | 2954 | No stop |
| 04 27 00 | --- | 23 02 58 | 51.8 | -41.0 | 5.1 | | 70.6 | 197 | 2981 | 04 23 31 |

Schedule for TORUN (Code Tr ) Page 12

VLBI observations of a HzRg in the center of a primordial galaxy cluster

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 04 27 00 | J1754+6452 | 23 02 58 | 51.3 | -41.5 | 5.1 | | 69.5 | -13 | 2981 | No stop |
| 04 28 30 | =1753+648 | 23 04 28 | 51.2 | -41.4 | 5.2 | | 69.2 | 77 | 2992 | 04 27 01 |
| 04 28 30 | 7C1756+6520 | 23 04 28 | 51.6 | -40.9 | 5.1 | | 70.3 | -13 | 2992 | No stop |
| 04 32 00 | --- | 23 07 58 | 51.3 | -40.7 | 5.2 | | 69.7 | 197 | 3019 | 04 28 31 |
| 04 32 30 | J1754+6452 | 23 08 29 | 50.8 | -41.2 | 5.2 | | 68.5 | 17 | 3019 | 04 32 30 |
| 04 34 00 | =1753+648 | 23 09 59 | 50.6 | -41.1 | 5.3 | | 68.2 | 90 | 3031 | 04 32 31 |
| 04 34 00 | 7C1756+6520 | 23 09 59 | 51.1 | -40.6 | 5.2 | | 69.3 | -13 | 3031 | No stop |
| 04 37 30 | --- | 23 13 29 | 50.7 | -40.3 | 5.3 | | 68.7 | 197 | 3058 | 04 34 01 |
| 04 37 30 | J1754+6452 | 23 13 29 | 50.3 | -40.8 | 5.3 | | 67.6 | -13 | 3058 | No stop |
| 04 39 00 | =1753+648 | 23 15 00 | 50.1 | -40.7 | 5.3 | | 67.3 | 77 | 3069 | 04 37 31 |
| 04 39 00 | 7C1756+6520 | 23 15 00 | 50.6 | -40.3 | 5.3 | | 68.4 | -13 | 3069 | No stop |
| 04 42 30 | --- | 23 18 30 | 50.2 | -40.0 | 5.4 | | 67.8 | 197 | 3096 | 04 39 01 |
| 04 43 00 | J1754+6452 | 23 19 00 | 49.7 | -40.5 | 5.4 | | 66.6 | 17 | 3096 | 04 43 00 |
| 04 44 30 | =1753+648 | 23 20 31 | 49.6 | -40.4 | 5.4 | | 66.4 | 90 | 3108 | 04 43 01 |
| 04 44 30 | 7C1756+6520 | 23 20 31 | 50.1 | -39.9 | 5.4 | | 67.4 | -13 | 3108 | No stop |
| 04 48 00 | --- | 23 24 01 | 49.7 | -39.7 | 5.4 | | 66.8 | 197 | 3135 | 04 44 31 |
| 04 48 00 | J1754+6452 | 23 24 01 | 49.2 | -40.2 | 5.5 | | 65.7 | -13 | 3135 | No stop |
| 04 49 30 | =1753+648 | 23 25 31 | 49.1 | -40.1 | 5.5 | | 65.5 | 77 | 3146 | 04 48 01 |
| 04 49 30 | 7C1756+6520 | 23 25 31 | 49.6 | -39.6 | 5.5 | | 66.5 | -13 | 3146 | No stop |
| 04 53 00 | --- | 23 29 02 | 49.2 | -39.4 | 5.5 | | 65.9 | 197 | 3173 | 04 49 31 |
| 04 53 30 | J1754+6452 | 23 29 32 | 48.7 | -39.8 | 5.6 | | 64.8 | 17 | 3173 | 04 53 30 |
| 04 55 00 | =1753+648 | 23 31 02 | 48.6 | -39.7 | 5.6 | | 64.5 | 90 | 3185 | 04 53 31 |
| 04 55 00 | 7C1756+6520 | 23 31 02 | 49.0 | -39.2 | 5.6 | | 65.5 | -13 | 3185 | No stop |
| 04 58 30 | --- | 23 34 33 | 48.7 | -39.0 | 5.6 | | 64.9 | 197 | 3212 | 04 55 01 |
| 04 58 30 | J1754+6452 | 23 34 33 | 48.2 | -39.4 | 5.7 | | 63.9 | -13 | 3212 | No stop |
| 05 00 00 | =1753+648 | 23 36 03 | 48.1 | -39.3 | 5.7 | | 63.6 | 77 | 3223 | 04 58 31 |
| 05 00 00 | 7C1756+6520 | 23 36 03 | 48.6 | -38.9 | 5.6 | | 64.6 | -13 | 3223 | No stop |
| 05 03 30 | --- | 23 39 34 | 48.2 | -38.7 | 5.7 | | 64.0 | 197 | 3250 | 05 00 01 |
| 05 04 00 | J1754+6452 | 23 40 04 | 47.7 | -39.0 | 5.8 | | 63.0 | 17 | 3250 | 05 04 00 |
| 05 05 30 | =1753+648 | 23 41 34 | 47.6 | -38.9 | 5.8 | | 62.7 | 90 | 3262 | 05 04 01 |

Schedule for TORUN (Code Tr ) Page 13

VLBI observations of a HzRg in the center of a primordial galaxy cluster

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 05 05 30 | 7C1756+6520 | 23 41 34 | 48.1 | -38.5 | 5.7 | | 63.7 | -13 | 3262 | No stop |
| 05 09 00 | --- | 23 45 05 | 47.7 | -38.3 | 5.8 | | 63.0 | 197 | 3288 | 05 05 31 |
| 05 09 00 | J1754+6452 | 23 45 05 | 47.2 | -38.7 | 5.8 | | 62.1 | -13 | 3288 | No stop |
| 05 10 30 | =1753+648 | 23 46 35 | 47.1 | -38.6 | 5.9 | | 61.8 | 77 | 3300 | 05 09 01 |
| 05 10 30 | 7C1756+6520 | 23 46 35 | 47.6 | -38.2 | 5.8 | | 62.8 | -13 | 3300 | No stop |
| 05 14 00 | --- | 23 50 05 | 47.3 | -37.9 | 5.9 | | 62.2 | 197 | 3327 | 05 10 31 |
| 05 14 30 | J1754+6452 | 23 50 35 | 46.7 | -38.3 | 5.9 | | 61.1 | 17 | 3327 | 05 14 30 |
| 05 16 00 | =1753+648 | 23 52 06 | 46.6 | -38.2 | 6.0 | | 60.9 | 90 | 3338 | 05 14 31 |
| 05 16 00 | 7C1756+6520 | 23 52 06 | 47.1 | -37.8 | 5.9 | | 61.8 | -13 | 3338 | No stop |
| 05 19 30 | --- | 23 55 36 | 46.8 | -37.5 | 6.0 | | 61.2 | 197 | 3365 | 05 16 01 |
| 05 19 30 | J1754+6452 | 23 55 36 | 46.3 | -37.9 | 6.0 | | 60.3 | -13 | 3365 | No stop |
| 05 21 00 | =1753+648 | 23 57 06 | 46.1 | -37.8 | 6.0 | | 60.0 | 77 | 3377 | 05 19 31 |
| 05 21 00 | 7C1756+6520 | 23 57 06 | 46.6 | -37.4 | 6.0 | | 61.0 | -13 | 3377 | No stop |
| 05 24 30 | --- | 00 00 37 | 46.3 | -37.2 | 6.1 | | 60.3 | 197 | 3404 | 05 21 01 |
| 05 25 00 | J1754+6452 | 00 01 07 | 45.7 | -37.5 | 6.1 | | 59.3 | 17 | 3404 | 05 25 00 |
| 05 26 30 | =1753+648 | 00 02 37 | 45.6 | -37.4 | 6.1 | | 59.1 | 90 | 3415 | 05 25 01 |
| 05 26 30 | 7C1756+6520 | 00 02 37 | 46.1 | -37.0 | 6.1 | | 60.0 | -13 | 3415 | No stop |
| 05 30 00 | --- | 00 06 08 | 45.8 | -36.7 | 6.1 | | 59.4 | 197 | 3442 | 05 26 31 |

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: sess214.C1024
--- WARNING --- This group does not match an entry in the frequency catalog.
This might be ok because the catalog is not complete.
But be very careful to be sure that the setup is correct.

Setup group: 11 Station: TORUN Total bit rate: 1024
Format: MARK5B Bits per sample: 2 Sample rate: 32.000
Number of channels: 16 DBE type: Speedup factor: 1.00

Disk used to record data.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1st LO= | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 |
| | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 | 4200.00 |
| Net SB= | L | L | U | U | L | L | U | U |
| | L | L | U | U | L | L | U | U |
| IF SB = | U | U | U | U | U | U | U | U |
| | U | U | U | U | U | U | U | U |
| Pol. = | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| BBC = | 1 | 5 | 1 | 5 | 2 | 6 | 2 | 6 |
| | 3 | 7 | 3 | 7 | 4 | 8 | 4 | 8 |
| BBC SB= | L | L | U | U | L | L | U | U |
| | L | L | U | U | L | L | U | U |
| IF = | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |
| | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |

The following frequency sets based on these setups were used.

Frequency Set: 6 Setup file default. Used with PCAL = off

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| LO sum= | 4942.49 | 4942.49 | 4942.49 | 4942.49 | 4974.49 | 4974.49 | 4974.49 | 4974.49 |
| | 5006.49 | 5006.49 | 5006.49 | 5006.49 | 5038.49 | 5038.49 | 5038.49 | 5038.49 |
| BBC fr= | 742.49 | 742.49 | 742.49 | 742.49 | 774.49 | 774.49 | 774.49 | 774.49 |
| | 806.49 | 806.49 | 806.49 | 806.49 | 838.49 | 838.49 | 838.49 | 838.49 |
| Bandwd= | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 |
| | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 |

Matching frequency sets: 6

Track assignments are:
track1= 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
barrel=roll_off

## POSITIONS OF SOURCES USED IN RECORDING SCANS

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * 7C1756+6520 | 17 56 57.408503 | * 17 57 05.760000 | 17 57 11.351318 | 0.00 |
| | 65 20 08.02492 | * 65 19 55.10000 | 65 19 57.29191 | 0.00 |
| * J1754+6452 | 17 53 56.158588 | * 17 54 07.589776 | 17 54 14.017483 | 2.89 |
| 1753+648 | 64 52 28.64646 | * 64 52 02.63111 | 64 52 01.27725 | 2.25 |
| * J2005+7752 | 20 07 20.430170 | * 20 05 30.998498 | 20 05 04.559293 | 0.48 |
| 2007+777 | 77 43 58.12300 | * 77 52 43.24753 | 77 55 09.86936 | 0.10 |

## EFFECT OF SOLAR CORONA

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) |
|---|---|
| 7C1756+6520 | 91.3 |
| J1754+6452 | 91.8 |
| J2005+7752 | 76.2 |

# f14m2tr

NETWORK MONITORING EXPERIMENT

PI: *Gabriele Surcis*


Address: JIVE Postbus 2 7990 AA Dwingeloo The Netherlands
Phone: +31-521-596508 EMAIL: surcis@jive.nl
Phone during observation: +31-521-596508


Notes: Ftp fringe test for session 2/2014
128 Mbps, L+R, 2-bit sampling, 2 MHz filters
Please send the disk pack by express to JIVE

COVER LETTER:

This is the schedule for the 5cm ftp fringe-test F14M2 on 12 Jun 2014
involving 10 antennas: Eb Wb Jb2 On25 Nt Tr Sh T6 Ys Sr (Yd, Sd).

Two ftp-fringe tests are scheduled throughout the experiment:

07:09 UT (scan 2, 2 sec, DA193)

08:59 UT (scan 8, 2 sec, DA193)

Please make sure that the autoftp is set up correctly. Thanks!

Good luck with the session!

Gabriele
Support Scientist, JIVE

Schedule for TORUN (Code Tr ) Page 2
Network Monitoring Experiment
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| Next scan frequencies: | | 6661.49 | 6661.49 | 6661.49 | 6661.49 | 6665.49 | 6665.49 | 6665.49 | 6665.49 | |
| | | 6669.49 | 6669.49 | 6669.49 | 6669.49 | 6673.49 | 6673.49 | 6673.49 | 6673.49 | |
| Next BBC frequencies: | | 761.49 | 761.49 | 761.49 | 761.49 | 765.49 | 765.49 | 765.49 | 765.49 | |
| | | 769.49 | 769.49 | 769.49 | 769.49 | 773.49 | 773.49 | 773.49 | 773.49 | |
| Next scan bandwidths: | | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | |
| | | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | |
| 07 00 00 | DA193 | 01 36 23 | 45.0 | 79.8 | -4.3 | | -50.3 | 0 | 0 | 07 00 00 |
| 07 05 00 | --- | 01 41 24 | 45.7 | 80.7 | -4.3 | | -50.5 | 300 | 5 | 07 00 01 |
| 07 06 00 | DA193 | 01 42 24 | 45.9 | 80.9 | -4.2 | | -50.5 | 54 | 5 | 07 06 00 |
| 07 10 00 | --- | 01 46 24 | 46.5 | 81.6 | -4.2 | | -50.6 | 240 | 9 | 07 06 01 |

```
07 14 00  DA193        01 50 25  47.0  82.3 -4.1     -50.8   233        9   07 14 00
07 20 00  ---          01 56 26  47.9  83.4 -4.0     -50.9   360       15   07 14 01

07 22 00  DA193        01 58 26  48.2  83.7 -4.0     -51.0   114       15   07 22 00
07 30 00  ---          02 06 28  49.4  85.2 -3.8     -51.2   480       22   07 22 01

07 32 00  DA193        02 08 28  49.7  85.6 -3.8     -51.2   114       22   07 32 00
07 40 00  ---          02 16 29  50.9  87.1 -3.7     -51.3   480       30   07 32 01

07 42 00  DA193        02 18 30  51.2  87.5 -3.6     -51.3   114       30   07 42 00
07 50 00  ---          02 26 31  52.4  89.0 -3.5     -51.4   480       38   07 42 01

07 52 00  DA193        02 28 31  52.7  89.4 -3.5     -51.4   114       38   07 52 00
08 00 00  ---          02 36 33  54.0  91.0 -3.3     -51.4   480       45   07 52 01
```

```
SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: sess214.M128
 --- WARNING ---  This group does not match an entry in the frequency catalog.
                  This might be ok because the catalog is not complete.
                  But be very careful to be sure that the setup is correct.

   Setup group:    8          Station: TORUN             Total bit rate:  128
   Format: MARK5B             Bits per sample: 2         Sample rate:  4.000
   Number of channels: 16     DBE type:                  Speedup factor:   1.00

   Disk used to record data.

   1st LO=   5900.00   5900.00   5900.00   5900.00   5900.00   5900.00   5900.00   5900.00
             5900.00   5900.00   5900.00   5900.00   5900.00   5900.00   5900.00   5900.00
   Net SB=         L         L         U         U         L         L         U         U
                   L         L         U         U         L         L         U         U
   Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                 RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
   BBC   =         1         5         1         5         2         6         2         6
                   3         7         3         7         4         8         4         8
   BBC SB=         L         L         U         U         L         L         U         U
                   L         L         U         U         L         L         U         U
   IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                  A1        B1        A1        B1        A1        B1        A1        B1

  The following frequency sets based on these setups were used.

   Frequency Set:   6  Setup file default.
   LO sum=   6661.49  6661.49  6661.49  6661.49  6665.49  6665.49  6665.49  6665.49
             6669.49  6669.49  6669.49  6669.49  6673.49  6673.49  6673.49  6673.49
   BBC fr=    761.49   761.49   761.49   761.49   765.49   765.49   765.49   765.49
              769.49   769.49   769.49   769.49   773.49   773.49   773.49   773.49
   Bandwd=      2.00     2.00     2.00     2.00     2.00     2.00     2.00     2.00
                2.00     2.00     2.00     2.00     2.00     2.00     2.00     2.00
    Matching frequency sets:   6

   Track assignments are:
    track1=   2,  4,  6,  8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
    barrel=roll_off
```

SOURCES USED IN RECORDING SCANS -- Network Monitoring Experiment
Catalog positions marked with *.
Precession of date coordinates is based on stop time of first scan.
Names used in schedule marked with *.
Short names used in VLA and SNAP files marked with +.
Observation date used in B1950/J2000 coordinate conversion (PRECDATE): 1979.900
No adjustments are made for rates (DRA, DDEC).
Scan hours are for recording scans only.
Baseline hours are only counted for scans above horizon at both ends.

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| J0555+3948 | 05 52 01.407174 | * 05 55 30.805616 | 05 56 30.176330 | 0.13 |
| * DA193 | 39 48 21.94578 | * 39 48 49.16493 | 39 48 45.99816 | 0.10 |

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) |
|---|---|
| DA193 | 18.2 |

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
that the Sun will cause amplitude reductions on the longest VLBA baselines
at a solar distance of 60deg F^(-0.6) where F is in GHz.
For common VLBI bands, this is:

| | |
|---|---|
| 327 MHz | 117. deg |
| 610 MHz | 81. deg |
| 1.6 GHz | 45. deg |
| 2.3 GHz | 36. deg |
| 5.0 GHz | 23. deg |
| 8.4 GHz | 17. deg |
| 15.0 GHz | 12. deg |
| 22.0 GHz | 9. deg |
| 43.0 GHz | 6. deg |

# gp051atr

## Methanol in M31

PI: *Pihlstrom*

Address: Dept. of Physics and Astronomy, MSC07 4220, University of New Mexico
Albuquerque, NM 87131, USA
Phone: +1-505-277-4492 EMAIL: ylva@unm.edu

Schedule for TORUN (Code Tr ) Page 2
Methanol in M31
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Stop ParA | Early / Stop Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| Next scan frequencies: | | 6666.25 | 6666.25 | | | | | | | |
| Next BBC frequencies: | | 766.25 | 766.25 | | | | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | | | | | | | |
| 09 00 00 | 3C454.3 | 03 36 42 | 24.6 | 264.4 | 4.7 | | 38.5 | 0 | 0 | 09 00 00 |
| 09 03 00 | --- | 03 39 43 | 24.1 | 265.0 | 4.8 | | 38.5 | 180 | 3 | 09 00 01 |
| 09 03 20 | 3C454.3 | 03 40 03 | 24.1 | 265.1 | 4.8 | | 38.5 | 14 | 3 | 09 03 20 |
| 09 04 20 | --- | 03 41 03 | 23.9 | 265.3 | 4.8 | | 38.6 | 60 | 4 | 09 03 21 |
| 09 04 40 | 3C454.3 | 03 41 23 | 23.9 | 265.4 | 4.8 | | 38.6 | 14 | 4 | 09 04 40 |
| 09 08 40 | --- | 03 45 24 | 23.3 | 266.2 | 4.8 | | 38.6 | 240 | 8 | 09 04 41 |
| 09 09 50 | J0038+4137 | 03 46 34 | 57.0 | 269.1 | 3.1 | | 53.5 | -70 | 8 | 09 09 50 |
| 09 11 50 | =0035+413 | 03 48 34 | 56.7 | 269.5 | 3.2 | | 53.5 | 50 | 10 | 09 09 51 |
| 09 12 10 | J0038+4137 | 03 48 54 | 56.6 | 269.5 | 3.2 | | 53.5 | 14 | 10 | 09 12 10 |
| 09 13 10 | =0035+413 | 03 49 55 | 56.5 | 269.7 | 3.2 | | 53.5 | 60 | 11 | 09 12 11 |
| 09 13 30 | M31_MSR | 03 50 15 | 57.2 | 268.2 | 3.1 | | 53.1 | 4 | 11 | 09 13 30 |
| 09 16 10 | --- | 03 52 55 | 56.8 | 268.7 | 3.1 | | 53.2 | 160 | 13 | 09 13 31 |
| 09 16 30 | J0038+4137 | 03 53 15 | 56.0 | 270.4 | 3.2 | | 53.5 | 3 | 13 | 09 16 30 |
| 09 17 10 | =0035+413 | 03 53 55 | 55.9 | 270.5 | 3.2 | | 53.5 | 40 | 14 | 09 16 31 |
| 09 17 30 | M31_MSR | 03 54 15 | 56.6 | 269.0 | 3.2 | | 53.2 | 4 | 14 | 09 17 30 |
| 09 20 10 | --- | 03 56 56 | 56.1 | 269.5 | 3.2 | | 53.2 | 160 | 16 | 09 17 31 |
| 09 20 30 | J0038+4137 | 03 57 16 | 55.4 | 271.2 | 3.3 | | 53.5 | 4 | 16 | 09 20 30 |
| 09 21 10 | =0035+413 | 03 57 56 | 55.3 | 271.3 | 3.3 | | 53.5 | 40 | 17 | 09 20 31 |
| 09 21 30 | M31_MSR | 03 58 16 | 55.9 | 269.8 | 3.2 | | 53.2 | 4 | 17 | 09 21 30 |
| 09 24 10 | --- | 04 00 56 | 55.5 | 270.3 | 3.3 | | 53.2 | 160 | 20 | 09 21 31 |
| 09 24 30 | J0038+4137 | 04 01 17 | 54.8 | 272.0 | 3.4 | | 53.5 | 4 | 20 | 09 24 30 |
| 09 25 30 | =0035+413 | 04 02 17 | 54.6 | 272.2 | 3.4 | | 53.5 | 60 | 21 | 09 24 31 |

Schedule for TORUN (Code Tr ) Page 3

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 09 25 50 | J0038+4137 | 04 02 37 | 54.6 | 272.2 | 3.4 | | 53.5 | 14 | 21 | 09 25 50 |
| 09 26 30 | =0035+413 | 04 03 17 | 54.5 | 272.3 | 3.4 | | 53.5 | 40 | 21 | 09 25 51 |
| 09 26 50 | M31_MSR | 04 03 37 | 55.1 | 270.9 | 3.3 | | 53.2 | 4 | 21 | 09 26 50 |
| 09 29 30 | --- | 04 06 17 | 54.7 | 271.4 | 3.4 | | 53.2 | 160 | 24 | 09 26 51 |
| 09 29 50 | J0038+4137 | 04 06 37 | 54.0 | 273.0 | 3.5 | | 53.4 | 4 | 24 | 09 29 50 |
| 09 30 30 | =0035+413 | 04 07 17 | 53.9 | 273.1 | 3.5 | | 53.4 | 40 | 24 | 09 29 51 |
| 09 30 50 | M31_MSR | 04 07 38 | 54.5 | 271.6 | 3.4 | | 53.1 | 4 | 24 | 09 30 50 |
| 09 33 30 | --- | 04 10 18 | 54.1 | 272.2 | 3.4 | | 53.1 | 160 | 27 | 09 30 51 |
| 09 33 50 | J0038+4137 | 04 10 38 | 53.4 | 273.7 | 3.5 | | 53.4 | 4 | 27 | 09 33 50 |
| 09 34 30 | =0035+413 | 04 11 18 | 53.3 | 273.9 | 3.5 | | 53.4 | 40 | 28 | 09 33 51 |
| 09 34 50 | M31_MSR | 04 11 38 | 53.9 | 272.4 | 3.4 | | 53.1 | 4 | 28 | 09 34 50 |
| 09 37 30 | --- | 04 14 19 | 53.5 | 272.9 | 3.5 | | 53.1 | 160 | 30 | 09 34 51 |
| 09 37 50 | J0038+4137 | 04 14 39 | 52.8 | 274.5 | 3.6 | | 53.3 | 4 | 30 | 09 37 50 |
| 09 38 50 | =0035+413 | 04 15 39 | 52.6 | 274.7 | 3.6 | | 53.3 | 60 | 31 | 09 37 51 |
| 09 39 10 | J0038+4137 | 04 15 59 | 52.6 | 274.7 | 3.6 | | 53.3 | 14 | 31 | 09 39 10 |
| 09 39 50 | =0035+413 | 04 16 39 | 52.5 | 274.9 | 3.6 | | 53.3 | 40 | 32 | 09 39 11 |
| 09 40 10 | M31_MSR | 04 16 59 | 53.1 | 273.4 | 3.5 | | 53.0 | 4 | 32 | 09 40 10 |
| 09 42 50 | --- | 04 19 40 | 52.7 | 273.9 | 3.6 | | 53.0 | 160 | 34 | 09 40 11 |
| 09 43 10 | J0038+4137 | 04 20 00 | 52.0 | 275.5 | 3.7 | | 53.2 | 4 | 34 | 09 43 10 |
| 09 43 50 | =0035+413 | 04 20 40 | 51.9 | 275.6 | 3.7 | | 53.2 | 40 | 35 | 09 43 11 |
| 09 44 10 | M31_MSR | 04 21 00 | 52.5 | 274.2 | 3.6 | | 53.0 | 4 | 35 | 09 44 10 |
| 09 46 50 | --- | 04 23 40 | 52.1 | 274.7 | 3.6 | | 52.9 | 160 | 37 | 09 44 11 |
| 09 47 10 | J0038+4137 | 04 24 00 | 51.4 | 276.2 | 3.7 | | 53.1 | 4 | 37 | 09 47 10 |
| 09 47 50 | =0035+413 | 04 24 40 | 51.3 | 276.3 | 3.8 | | 53.1 | 40 | 38 | 09 47 11 |
| 09 48 10 | M31_MSR | 04 25 00 | 51.9 | 274.9 | 3.7 | | 52.9 | 4 | 38 | 09 48 10 |
| 09 50 50 | --- | 04 27 41 | 51.5 | 275.4 | 3.7 | | 52.8 | 160 | 41 | 09 48 11 |
| 09 51 10 | J0038+4137 | 04 28 01 | 50.8 | 276.9 | 3.8 | | 53.0 | 4 | 41 | 09 51 10 |
| 09 52 10 | =0035+413 | 04 29 01 | 50.6 | 277.1 | 3.8 | | 52.9 | 60 | 42 | 09 51 11 |
| 09 52 30 | J0038+4137 | 04 29 21 | 50.6 | 277.1 | 3.8 | | 52.9 | 14 | 42 | 09 52 30 |
| 09 53 10 | =0035+413 | 04 30 01 | 50.5 | 277.3 | 3.8 | | 52.9 | 40 | 42 | 09 52 31 |
| 09 53 30 | M31_MSR | 04 30 21 | 51.1 | 275.9 | 3.8 | | 52.8 | 4 | 42 | 09 53 30 |
| 09 56 10 | --- | 04 33 02 | 50.7 | 276.4 | 3.8 | | 52.7 | 160 | 45 | 09 53 31 |

Schedule for TORUN (Code Tr ) Page 4

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 09 56 30 | J0038+4137 | 04 33 22 | 50.0 | 277.8 | 3.9 | | 52.8 | 4 | 45 | 09 56 30 |
| 09 57 10 | =0035+413 | 04 34 02 | 49.9 | 278.0 | 3.9 | | 52.8 | 40 | 46 | 09 56 31 |
| 09 57 30 | M31_MSR | 04 34 22 | 50.5 | 276.6 | 3.8 | | 52.7 | 4 | 46 | 09 57 30 |
| 10 00 10 | --- | 04 37 02 | 50.1 | 277.1 | 3.9 | | 52.6 | 160 | 48 | 09 57 31 |
| 10 00 30 | J0038+4137 | 04 37 22 | 49.4 | 278.5 | 4.0 | | 52.7 | 4 | 48 | 10 00 30 |
| 10 01 10 | =0035+413 | 04 38 03 | 49.3 | 278.7 | 4.0 | | 52.7 | 40 | 49 | 10 00 31 |
| 10 01 30 | M31_MSR | 04 38 23 | 49.9 | 277.3 | 3.9 | | 52.6 | 5 | 49 | 10 01 30 |
| 10 04 10 | --- | 04 41 03 | 49.5 | 277.8 | 3.9 | | 52.5 | 160 | 51 | 10 01 31 |
| 10 04 30 | J0038+4137 | 04 41 23 | 48.8 | 279.2 | 4.0 | | 52.5 | 4 | 51 | 10 04 30 |
| 10 05 30 | =0035+413 | 04 42 23 | 48.6 | 279.4 | 4.1 | | 52.5 | 60 | 52 | 10 04 31 |
| 10 05 50 | J0038+4137 | 04 42 43 | 48.6 | 279.5 | 4.1 | | 52.5 | 14 | 52 | 10 05 50 |
| 10 06 30 | =0035+413 | 04 43 23 | 48.5 | 279.6 | 4.1 | | 52.5 | 40 | 53 | 10 05 51 |
| 10 06 50 | M31_MSR | 04 43 43 | 49.1 | 278.3 | 4.0 | | 52.4 | 5 | 53 | 10 06 50 |
| 10 09 30 | --- | 04 46 24 | 48.8 | 278.7 | 4.0 | | 52.3 | 160 | 55 | 10 06 51 |
| 10 09 50 | J0038+4137 | 04 46 44 | 48.0 | 280.2 | 4.1 | | 52.3 | 4 | 55 | 10 09 50 |
| 10 10 30 | =0035+413 | 04 47 24 | 47.9 | 280.3 | 4.1 | | 52.3 | 40 | 56 | 10 09 51 |
| 10 10 50 | M31_MSR | 04 47 44 | 48.6 | 279.0 | 4.0 | | 52.3 | 5 | 56 | 10 10 50 |
| 10 13 30 | --- | 04 50 25 | 48.2 | 279.4 | 4.1 | | 52.2 | 160 | 59 | 10 10 51 |
| 10 13 50 | J0038+4137 | 04 50 45 | 47.4 | 280.8 | 4.2 | | 52.2 | 4 | 59 | 10 13 50 |
| 10 14 30 | =0035+413 | 04 51 25 | 47.3 | 281.0 | 4.2 | | 52.1 | 40 | 59 | 10 13 51 |
| 10 14 50 | M31_MSR | 04 51 45 | 48.0 | 279.7 | 4.1 | | 52.1 | 5 | 59 | 10 14 50 |
| 10 17 30 | --- | 04 54 25 | 47.6 | 280.1 | 4.2 | | 52.0 | 160 | 62 | 10 14 51 |
| 10 17 50 | J0038+4137 | 04 54 45 | 46.8 | 281.5 | 4.3 | | 52.0 | 5 | 62 | 10 17 50 |
| 10 18 50 | =0035+413 | 04 55 45 | 46.7 | 281.7 | 4.3 | | 52.0 | 60 | 63 | 10 17 51 |
| 10 19 10 | J0038+4137 | 04 56 05 | 46.6 | 281.7 | 4.3 | | 51.9 | 14 | 63 | 10 19 10 |
| 10 19 50 | =0035+413 | 04 56 46 | 46.5 | 281.9 | 4.3 | | 51.9 | 40 | 63 | 10 19 11 |
| 10 20 10 | M31_MSR | 04 57 06 | 47.2 | 280.6 | 4.2 | | 51.9 | 5 | 63 | 10 20 10 |
| 10 22 50 | --- | 04 59 46 | 46.8 | 281.0 | 4.2 | | 51.8 | 160 | 66 | 10 20 11 |
| 10 23 10 | J0038+4137 | 05 00 06 | 46.0 | 282.4 | 4.3 | | 51.8 | 5 | 66 | 10 23 10 |
| 10 23 50 | =0035+413 | 05 00 46 | 45.9 | 282.5 | 4.4 | | 51.7 | 40 | 67 | 10 23 11 |
| 10 24 10 | M31_MSR | 05 01 06 | 46.6 | 281.3 | 4.3 | | 51.7 | 5 | 67 | 10 24 10 |
| 10 26 50 | --- | 05 03 47 | 46.2 | 281.7 | 4.3 | | 51.6 | 160 | 69 | 10 24 11 |

Schedule for TORUN (Code Tr ) Page 5

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 10 27 10 | J0038+4137 | 05 04 07 | 45.5 | 283.1 | 4.4 | | 51.6 | 5 | 69 | 10 27 10 |
| 10 27 50 | =0035+413 | 05 04 47 | 45.4 | 283.2 | 4.4 | | 51.5 | 40 | 70 | 10 27 11 |
| 10 28 10 | M31_MSR | 05 05 07 | 46.0 | 281.9 | 4.3 | | 51.6 | 5 | 70 | 10 28 10 |
| 10 30 50 | --- | 05 07 47 | 45.6 | 282.4 | 4.4 | | 51.4 | 160 | 72 | 10 28 11 |
| 10 31 10 | J0038+4137 | 05 08 07 | 44.9 | 283.7 | 4.5 | | 51.4 | 5 | 72 | 10 31 10 |
| 10 32 10 | =0035+413 | 05 09 08 | 44.7 | 283.9 | 4.5 | | 51.3 | 60 | 73 | 10 31 11 |
| 10 32 30 | J0038+4137 | 05 09 28 | 44.7 | 284.0 | 4.5 | | 51.3 | 14 | 73 | 10 32 30 |
| 10 33 10 | =0035+413 | 05 10 08 | 44.6 | 284.1 | 4.5 | | 51.3 | 40 | 74 | 10 32 31 |
| 10 33 30 | M31_MSR | 05 10 28 | 45.2 | 282.8 | 4.4 | | 51.3 | 5 | 74 | 10 33 30 |
| 10 36 10 | --- | 05 13 08 | 44.8 | 283.3 | 4.5 | | 51.2 | 160 | 77 | 10 33 31 |
| 10 36 30 | J0038+4137 | 05 13 28 | 44.1 | 284.6 | 4.6 | | 51.1 | 5 | 77 | 10 36 30 |
| 10 37 10 | =0035+413 | 05 14 08 | 44.0 | 284.7 | 4.6 | | 51.1 | 40 | 77 | 10 36 31 |
| 10 37 30 | M31_MSR | 05 14 28 | 44.6 | 283.5 | 4.5 | | 51.1 | 5 | 77 | 10 37 30 |
| 10 40 10 | --- | 05 17 09 | 44.2 | 283.9 | 4.5 | | 51.0 | 160 | 80 | 10 37 31 |
| 10 40 30 | J0038+4137 | 05 17 29 | 43.5 | 285.3 | 4.6 | | 50.9 | 5 | 80 | 10 40 30 |
| 10 41 10 | =0035+413 | 05 18 09 | 43.4 | 285.4 | 4.6 | | 50.8 | 40 | 80 | 10 40 31 |
| 10 41 30 | M31_MSR | 05 18 29 | 44.0 | 284.1 | 4.6 | | 50.9 | 5 | 80 | 10 41 30 |
| 10 44 10 | --- | 05 21 10 | 43.6 | 284.6 | 4.6 | | 50.8 | 160 | 83 | 10 41 31 |
| 10 44 30 | J0038+4137 | 05 21 30 | 42.9 | 285.9 | 4.7 | | 50.7 | 5 | 83 | 10 44 30 |
| 10 45 30 | =0035+413 | 05 22 30 | 42.8 | 286.1 | 4.7 | | 50.6 | 60 | 84 | 10 44 31 |
| 10 45 50 | J0038+4137 | 05 22 50 | 42.7 | 286.1 | 4.7 | | 50.6 | 14 | 84 | 10 45 50 |
| 10 46 30 | =0035+413 | 05 23 30 | 42.6 | 286.2 | 4.7 | | 50.5 | 40 | 85 | 10 45 51 |
| 10 46 50 | M31_MSR | 05 23 50 | 43.3 | 285.0 | 4.6 | | 50.6 | 5 | 85 | 10 46 50 |
| 10 49 30 | --- | 05 26 30 | 42.9 | 285.5 | 4.7 | | 50.5 | 160 | 87 | 10 46 51 |
| 10 49 50 | J0038+4137 | 05 26 51 | 42.2 | 286.8 | 4.8 | | 50.3 | 5 | 87 | 10 49 50 |
| 10 50 30 | =0035+413 | 05 27 31 | 42.1 | 286.9 | 4.8 | | 50.3 | 40 | 88 | 10 49 51 |
| 10 50 50 | M31_MSR | 05 27 51 | 42.7 | 285.7 | 4.7 | | 50.4 | 5 | 88 | 10 50 50 |
| 10 53 30 | --- | 05 30 31 | 42.3 | 286.1 | 4.8 | | 50.3 | 160 | 90 | 10 50 51 |
| 10 53 50 | J0038+4137 | 05 30 51 | 41.6 | 287.4 | 4.9 | | 50.1 | 5 | 90 | 10 53 50 |
| 10 54 30 | =0035+413 | 05 31 31 | 41.5 | 287.5 | 4.9 | | 50.1 | 40 | 91 | 10 53 51 |
| 10 54 50 | M31_MSR | 05 31 51 | 42.1 | 286.3 | 4.8 | | 50.2 | 5 | 91 | 10 54 50 |
| 10 57 30 | --- | 05 34 32 | 41.7 | 286.8 | 4.8 | | 50.0 | 160 | 94 | 10 54 51 |

Schedule for TORUN (Code Tr ) Page 6

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 10 57 50 | J0038+4137 | 05 34 52 | 41.0 | 288.1 | 4.9 | | 49.9 | 5 | 94 | 10 57 50 |
| 10 58 50 | =0035+413 | 05 35 52 | 40.9 | 288.2 | 4.9 | | 49.8 | 60 | 95 | 10 57 51 |
| 10 59 10 | J0038+4137 | 05 36 12 | 40.8 | 288.3 | 4.9 | | 49.8 | 14 | 95 | 10 59 10 |
| 10 59 50 | =0035+413 | 05 36 52 | 40.7 | 288.4 | 5.0 | | 49.7 | 40 | 95 | 10 59 11 |
| 11 00 10 | M31_MSR | 05 37 12 | 41.3 | 287.2 | 4.9 | | 49.9 | 5 | 95 | 11 00 10 |
| 11 02 50 | --- | 05 39 53 | 40.9 | 287.6 | 4.9 | | 49.7 | 160 | 98 | 11 00 11 |
| 11 03 10 | J0038+4137 | 05 40 13 | 40.2 | 288.9 | 5.0 | | 49.5 | 5 | 98 | 11 03 10 |
| 11 03 50 | =0035+413 | 05 40 53 | 40.1 | 289.0 | 5.0 | | 49.5 | 40 | 98 | 11 03 11 |
| 11 04 10 | M31_MSR | 05 41 13 | 40.8 | 287.8 | 4.9 | | 49.6 | 5 | 98 | 11 04 10 |
| 11 06 50 | --- | 05 43 53 | 40.4 | 288.3 | 5.0 | | 49.5 | 160 | 101 | 11 04 11 |
| 11 07 10 | J0038+4137 | 05 44 13 | 39.7 | 289.5 | 5.1 | | 49.3 | 5 | 101 | 11 07 10 |
| 11 07 50 | =0035+413 | 05 44 53 | 39.6 | 289.7 | 5.1 | | 49.2 | 40 | 102 | 11 07 11 |
| 11 08 10 | M31_MSR | 05 45 14 | 40.2 | 288.5 | 5.0 | | 49.4 | 5 | 102 | 11 08 10 |
| 11 10 50 | --- | 05 47 54 | 39.8 | 288.9 | 5.0 | | 49.2 | 160 | 104 | 11 08 11 |
| 11 11 10 | J0038+4137 | 05 48 14 | 39.1 | 290.2 | 5.2 | | 49.0 | 5 | 104 | 11 11 10 |
| 11 12 10 | =0035+413 | 05 49 14 | 39.0 | 290.3 | 5.2 | | 48.9 | 60 | 105 | 11 11 11 |
| 11 12 30 | J0038+4137 | 05 49 34 | 38.9 | 290.4 | 5.2 | | 48.9 | 14 | 105 | 11 12 30 |
| 11 13 10 | =0035+413 | 05 50 14 | 38.8 | 290.5 | 5.2 | | 48.9 | 40 | 106 | 11 12 31 |
| 11 13 30 | M31_MSR | 05 50 34 | 39.4 | 289.3 | 5.1 | | 49.1 | 5 | 106 | 11 13 30 |
| 11 16 10 | --- | 05 53 15 | 39.0 | 289.8 | 5.1 | | 48.9 | 160 | 108 | 11 13 31 |
| 11 16 30 | J0038+4137 | 05 53 35 | 38.4 | 291.0 | 5.2 | | 48.6 | 5 | 108 | 11 16 30 |
| 11 17 10 | =0035+413 | 05 54 15 | 38.3 | 291.1 | 5.3 | | 48.6 | 40 | 109 | 11 16 31 |
| 11 17 30 | M31_MSR | 05 54 35 | 38.9 | 290.0 | 5.2 | | 48.8 | 5 | 109 | 11 17 30 |
| 11 20 10 | --- | 05 57 16 | 38.5 | 290.4 | 5.2 | | 48.6 | 160 | 112 | 11 17 31 |
| 11 20 30 | J0038+4137 | 05 57 36 | 37.8 | 291.7 | 5.3 | | 48.4 | 5 | 112 | 11 20 30 |
| 11 21 10 | =0035+413 | 05 58 16 | 37.7 | 291.8 | 5.3 | | 48.3 | 40 | 112 | 11 20 31 |
| 11 21 30 | M31_MSR | 05 58 36 | 38.3 | 290.6 | 5.2 | | 48.5 | 5 | 112 | 11 21 30 |
| 11 24 10 | --- | 06 01 16 | 37.9 | 291.0 | 5.3 | | 48.4 | 160 | 115 | 11 21 31 |
| 11 24 30 | J0038+4137 | 06 01 36 | 37.2 | 292.3 | 5.4 | | 48.1 | 5 | 115 | 11 24 30 |
| 11 25 30 | =0035+413 | 06 02 36 | 37.1 | 292.4 | 5.4 | | 48.0 | 60 | 116 | 11 24 31 |

Schedule for TORUN (Code Tr ) Page 7

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Stop ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 11 25 50 | J0038+4137 | 06 02 56 | 37.1 | 292.5 | 5.4 | | 48.0 | 14 | 116 | 11 25 50 |
| 11 26 30 | =0035+413 | 06 03 37 | 37.0 | 292.6 | 5.4 | | 47.9 | 40 | 116 | 11 25 51 |
| 11 26 50 | M31_MSR | 06 03 57 | 37.5 | 291.4 | 5.3 | | 48.2 | 5 | 116 | 11 26 50 |
| 11 29 30 | --- | 06 06 37 | 37.2 | 291.9 | 5.4 | | 48.0 | 160 | 119 | 11 26 51 |
| 11 29 50 | J0038+4137 | 06 06 57 | 36.5 | 293.1 | 5.5 | | 47.7 | 5 | 119 | 11 29 50 |
| 11 30 30 | =0035+413 | 06 07 37 | 36.4 | 293.2 | 5.5 | | 47.6 | 40 | 120 | 11 29 51 |
| 11 30 50 | M31_MSR | 06 07 57 | 37.0 | 292.1 | 5.4 | | 47.9 | 5 | 120 | 11 30 50 |
| 11 33 30 | --- | 06 10 38 | 36.6 | 292.5 | 5.4 | | 47.7 | 160 | 122 | 11 30 51 |
| 11 33 50 | J0038+4137 | 06 10 58 | 35.9 | 293.7 | 5.5 | | 47.4 | 5 | 122 | 11 33 50 |
| 11 34 30 | =0035+413 | 06 11 38 | 35.9 | 293.9 | 5.5 | | 47.3 | 40 | 123 | 11 33 51 |
| 11 34 50 | M31_MSR | 06 11 58 | 36.4 | 292.7 | 5.4 | | 47.6 | 5 | 123 | 11 34 50 |
| 11 37 30 | --- | 06 14 38 | 36.1 | 293.1 | 5.5 | | 47.4 | 160 | 125 | 11 34 51 |
| 11 37 50 | J0038+4137 | 06 14 58 | 35.4 | 294.4 | 5.6 | | 47.1 | 5 | 125 | 11 37 50 |
| 11 38 50 | =0035+413 | 06 15 59 | 35.3 | 294.5 | 5.6 | | 47.0 | 60 | 126 | 11 37 51 |
| 11 39 10 | J0038+4137 | 06 16 19 | 35.2 | 294.6 | 5.6 | | 47.0 | 14 | 126 | 11 39 10 |
| 11 39 50 | =0035+413 | 06 16 59 | 35.1 | 294.7 | 5.6 | | 46.9 | 40 | 127 | 11 39 11 |
| 11 40 10 | M31_MSR | 06 17 19 | 35.7 | 293.5 | 5.5 | | 47.2 | 5 | 127 | 11 40 10 |
| 11 42 50 | --- | 06 19 59 | 35.3 | 294.0 | 5.6 | | 47.0 | 160 | 129 | 11 40 11 |
| 11 43 10 | J0038+4137 | 06 20 19 | 34.7 | 295.2 | 5.7 | | 46.7 | 5 | 129 | 11 43 10 |
| 11 43 50 | =0035+413 | 06 20 59 | 34.6 | 295.3 | 5.7 | | 46.6 | 40 | 130 | 11 43 11 |
| 11 44 10 | M31_MSR | 06 21 19 | 35.1 | 294.2 | 5.6 | | 46.9 | 5 | 130 | 11 44 10 |
| 11 46 50 | --- | 06 24 00 | 34.8 | 294.6 | 5.6 | | 46.7 | 160 | 133 | 11 44 11 |
| 11 47 10 | J0038+4137 | 06 24 20 | 34.1 | 295.8 | 5.8 | | 46.4 | 5 | 133 | 11 47 10 |
| 11 47 50 | =0035+413 | 06 25 00 | 34.0 | 295.9 | 5.8 | | 46.3 | 40 | 133 | 11 47 11 |
| 11 48 10 | M31_MSR | 06 25 20 | 34.6 | 294.8 | 5.7 | | 46.6 | 5 | 133 | 11 48 10 |
| 11 50 50 | --- | 06 28 01 | 34.2 | 295.2 | 5.7 | | 46.4 | 160 | 136 | 11 48 11 |
| 11 51 10 | J0038+4137 | 06 28 21 | 33.6 | 296.5 | 5.8 | | 46.1 | 5 | 136 | 11 51 10 |
| 11 52 10 | =0035+413 | 06 29 21 | 33.4 | 296.6 | 5.8 | | 46.0 | 60 | 137 | 11 51 11 |
| 11 52 30 | J0038+4137 | 06 29 41 | 33.4 | 296.7 | 5.8 | | 45.9 | 14 | 137 | 11 52 30 |
| 11 53 10 | =0035+413 | 06 30 21 | 33.3 | 296.8 | 5.9 | | 45.9 | 40 | 137 | 11 52 31 |

Schedule for TORUN (Code Tr ) Page 8

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Stop ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 11 54 50 | 3C84 | 06 32 01 | 56.3 | 269.6 | 3.2 | | 53.4 | 0 | 137 | 11 54 50 |
| 11 56 20 | --- | 06 33 31 | 56.1 | 269.9 | 3.2 | | 53.4 | 90 | 139 | 11 54 51 |
| 11 56 30 | 3C84 | 06 33 41 | 56.1 | 270.0 | 3.2 | | 53.4 | 4 | 139 | 11 56 30 |
| 12 00 30 | --- | 06 37 42 | 55.5 | 270.8 | 3.3 | | 53.4 | 240 | 143 | 11 56 31 |
| 12 02 10 | J0038+4137 | 06 39 22 | 32.1 | 298.2 | 6.0 | | 45.1 | -1 | 143 | 12 02 10 |
| 12 03 40 | =0035+413 | 06 40 53 | 31.9 | 298.4 | 6.0 | | 45.0 | 89 | 144 | 12 02 11 |
| 12 04 00 | J0038+4137 | 06 41 13 | 31.9 | 298.5 | 6.0 | | 45.0 | 14 | 144 | 12 04 00 |
| 12 05 00 | =0035+413 | 06 42 13 | 31.7 | 298.6 | 6.1 | | 44.9 | 60 | 145 | 12 04 01 |
| 12 05 20 | M31_MSR | 06 42 33 | 32.3 | 297.5 | 6.0 | | 45.2 | 5 | 145 | 12 05 20 |
| 12 08 00 | --- | 06 45 13 | 31.9 | 297.9 | 6.0 | | 45.0 | 160 | 148 | 12 05 21 |
| 12 08 20 | J0038+4137 | 06 45 33 | 31.3 | 299.1 | 6.1 | | 44.6 | 5 | 148 | 12 08 20 |
| 12 09 00 | =0035+413 | 06 46 14 | 31.2 | 299.2 | 6.1 | | 44.6 | 40 | 148 | 12 08 21 |
| 12 09 20 | M31_MSR | 06 46 34 | 31.7 | 298.1 | 6.0 | | 44.9 | 5 | 148 | 12 09 20 |
| 12 12 00 | --- | 06 49 14 | 31.4 | 298.5 | 6.1 | | 44.7 | 160 | 151 | 12 09 21 |
| 12 12 20 | J0038+4137 | 06 49 34 | 30.8 | 299.8 | 6.2 | | 44.3 | 5 | 151 | 12 12 20 |
| 12 13 00 | =0035+413 | 06 50 14 | 30.7 | 299.9 | 6.2 | | 44.2 | 40 | 152 | 12 12 21 |
| 12 13 20 | M31_MSR | 06 50 34 | 31.2 | 298.7 | 6.1 | | 44.6 | 5 | 152 | 12 13 20 |
| 12 16 00 | --- | 06 53 15 | 30.9 | 299.2 | 6.1 | | 44.3 | 160 | 154 | 12 13 21 |
| 12 16 20 | J0038+4137 | 06 53 35 | 30.3 | 300.4 | 6.2 | | 43.9 | 5 | 154 | 12 16 20 |
| 12 17 20 | =0035+413 | 06 54 35 | 30.1 | 300.5 | 6.3 | | 43.8 | 60 | 155 | 12 16 21 |
| 12 17 40 | J0038+4137 | 06 54 55 | 30.1 | 300.6 | 6.3 | | 43.8 | 14 | 155 | 12 17 40 |
| 12 18 20 | =0035+413 | 06 55 35 | 30.0 | 300.7 | 6.3 | | 43.8 | 40 | 156 | 12 17 41 |
| 12 18 40 | M31_MSR | 06 55 55 | 30.5 | 299.6 | 6.2 | | 44.1 | 5 | 156 | 12 18 40 |
| 12 21 20 | --- | 06 58 36 | 30.2 | 300.0 | 6.2 | | 43.9 | 160 | 158 | 12 18 41 |
| 12 21 40 | J0038+4137 | 06 58 56 | 29.6 | 301.2 | 6.3 | | 43.5 | 5 | 158 | 12 21 40 |
| 12 22 20 | =0035+413 | 06 59 36 | 29.5 | 301.3 | 6.3 | | 43.4 | 40 | 159 | 12 21 41 |
| 12 22 40 | M31_MSR | 06 59 56 | 30.0 | 300.2 | 6.2 | | 43.8 | 5 | 159 | 12 22 40 |
| 12 25 20 | --- | 07 02 36 | 29.6 | 300.6 | 6.3 | | 43.5 | 160 | 162 | 12 22 41 |
| 12 25 40 | J0038+4137 | 07 02 56 | 29.0 | 301.8 | 6.4 | | 43.1 | 5 | 162 | 12 25 40 |
| 12 26 20 | =0035+413 | 07 03 36 | 29.0 | 301.9 | 6.4 | | 43.0 | 40 | 162 | 12 25 41 |

Schedule for TORUN (Code Tr ) Page 9

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 12 26 40 | M31_MSR | 07 03 56 | 29.5 | 300.8 | 6.3 | | 43.4 | 5 | 162 | 12 26 40 |
| 12 29 20 | --- | 07 06 37 | 29.1 | 301.3 | 6.4 | | 43.2 | 160 | 165 | 12 26 41 |
| 12 29 40 | J0038+4137 | 07 06 57 | 28.5 | 302.5 | 6.5 | | 42.7 | 5 | 165 | 12 29 40 |
| 12 30 40 | =0035+413 | 07 07 57 | 28.4 | 302.6 | 6.5 | | 42.6 | 60 | 166 | 12 29 41 |
| 12 31 00 | J0038+4137 | 07 08 17 | 28.4 | 302.7 | 6.5 | | 42.6 | 14 | 166 | 12 31 00 |
| 12 31 40 | =0035+413 | 07 08 57 | 28.3 | 302.8 | 6.5 | | 42.5 | 40 | 166 | 12 31 01 |
| 12 32 00 | M31_MSR | 07 09 17 | 28.8 | 301.7 | 6.4 | | 42.9 | 6 | 166 | 12 32 00 |
| 12 34 40 | --- | 07 11 58 | 28.4 | 302.1 | 6.4 | | 42.7 | 160 | 169 | 12 32 01 |
| 12 35 00 | J0038+4137 | 07 12 18 | 27.9 | 303.3 | 6.6 | | 42.2 | 5 | 169 | 12 35 00 |
| 12 35 40 | =0035+413 | 07 12 58 | 27.8 | 303.4 | 6.6 | | 42.2 | 40 | 170 | 12 35 01 |
| 12 36 00 | M31_MSR | 07 13 18 | 28.3 | 302.3 | 6.5 | | 42.6 | 6 | 170 | 12 36 00 |
| 12 38 40 | --- | 07 15 58 | 27.9 | 302.7 | 6.5 | | 42.3 | 160 | 172 | 12 36 01 |
| 12 39 00 | J0038+4137 | 07 16 18 | 27.4 | 303.9 | 6.6 | | 41.9 | 5 | 172 | 12 39 00 |
| 12 39 40 | =0035+413 | 07 16 59 | 27.3 | 304.0 | 6.6 | | 41.8 | 40 | 173 | 12 39 01 |
| 12 40 00 | M31_MSR | 07 17 19 | 27.8 | 302.9 | 6.5 | | 42.2 | 6 | 173 | 12 40 00 |
| 12 42 40 | --- | 07 19 59 | 27.4 | 303.4 | 6.6 | | 42.0 | 160 | 175 | 12 40 01 |
| 12 43 00 | J0038+4137 | 07 20 19 | 26.9 | 304.6 | 6.7 | | 41.5 | 5 | 175 | 12 43 00 |
| 12 44 00 | =0035+413 | 07 21 19 | 26.7 | 304.7 | 6.7 | | 41.4 | 60 | 176 | 12 43 01 |
| 12 44 20 | J0038+4137 | 07 21 39 | 26.7 | 304.8 | 6.7 | | 41.4 | 14 | 176 | 12 44 20 |
| 12 45 00 | =0035+413 | 07 22 19 | 26.6 | 304.9 | 6.7 | | 41.3 | 40 | 177 | 12 44 21 |
| 12 45 20 | M31_MSR | 07 22 39 | 27.1 | 303.8 | 6.6 | | 41.7 | 6 | 177 | 12 45 20 |
| 12 48 00 | --- | 07 25 20 | 26.8 | 304.2 | 6.7 | | 41.5 | 160 | 179 | 12 45 21 |
| 12 48 20 | J0038+4137 | 07 25 40 | 26.2 | 305.4 | 6.8 | | 41.0 | 5 | 179 | 12 48 20 |
| 12 49 00 | =0035+413 | 07 26 20 | 26.1 | 305.5 | 6.8 | | 40.9 | 40 | 180 | 12 48 21 |
| 12 49 20 | M31_MSR | 07 26 40 | 26.6 | 304.4 | 6.7 | | 41.3 | 6 | 180 | 12 49 20 |
| 12 52 00 | --- | 07 29 21 | 26.3 | 304.8 | 6.7 | | 41.1 | 160 | 183 | 12 49 21 |
| 12 52 20 | J0038+4137 | 07 29 41 | 25.7 | 306.0 | 6.8 | | 40.6 | 5 | 183 | 12 52 20 |
| 12 53 00 | =0035+413 | 07 30 21 | 25.6 | 306.1 | 6.9 | | 40.5 | 40 | 183 | 12 52 21 |
| 12 53 20 | M31_MSR | 07 30 41 | 26.1 | 305.0 | 6.8 | | 41.0 | 6 | 183 | 12 53 20 |
| 12 56 00 | --- | 07 33 21 | 25.8 | 305.5 | 6.8 | | 40.7 | 160 | 186 | 12 53 21 |

Schedule for TORUN (Code Tr ) Page 10

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 12 56 20 | J0038+4137 | 07 33 41 | 25.2 | 306.7 | 6.9 | | 40.2 | 5 | 186 | 12 56 20 |
| 12 57 20 | =0035+413 | 07 34 41 | 25.1 | 306.8 | 6.9 | | 40.1 | 60 | 187 | 12 56 21 |
| 12 57 40 | J0038+4137 | 07 35 02 | 25.1 | 306.9 | 6.9 | | 40.0 | 14 | 187 | 12 57 40 |
| 12 58 20 | =0035+413 | 07 35 42 | 25.0 | 307.0 | 6.9 | | 40.0 | 40 | 187 | 12 57 41 |
| 12 58 40 | M31_MSR | 07 36 02 | 25.4 | 305.9 | 6.8 | | 40.4 | 6 | 187 | 12 58 40 |
| 13 01 20 | --- | 07 38 42 | 25.1 | 306.3 | 6.9 | | 40.2 | 160 | 190 | 12 58 41 |
| 13 01 40 | J0038+4137 | 07 39 02 | 24.6 | 307.5 | 7.0 | | 39.6 | 5 | 190 | 13 01 40 |
| 13 02 20 | =0035+413 | 07 39 42 | 24.5 | 307.6 | 7.0 | | 39.6 | 40 | 191 | 13 01 41 |
| 13 02 40 | M31_MSR | 07 40 02 | 25.0 | 306.5 | 6.9 | | 40.0 | 6 | 191 | 13 02 40 |
| 13 05 20 | --- | 07 42 43 | 24.6 | 306.9 | 7.0 | | 39.8 | 160 | 193 | 13 02 41 |
| 13 05 40 | J0038+4137 | 07 43 03 | 24.1 | 308.1 | 7.1 | | 39.2 | 5 | 193 | 13 05 40 |
| 13 06 20 | =0035+413 | 07 43 43 | 24.0 | 308.2 | 7.1 | | 39.2 | 40 | 194 | 13 05 41 |
| 13 06 40 | M31_MSR | 07 44 03 | 24.5 | 307.1 | 7.0 | | 39.6 | 6 | 194 | 13 06 40 |
| 13 09 20 | --- | 07 46 43 | 24.2 | 307.6 | 7.0 | | 39.4 | 160 | 196 | 13 06 41 |
| 13 09 40 | J0038+4137 | 07 47 03 | 23.6 | 308.8 | 7.1 | | 38.8 | 5 | 196 | 13 09 40 |
| 13 10 40 | =0035+413 | 07 48 04 | 23.5 | 308.9 | 7.1 | | 38.7 | 60 | 197 | 13 09 41 |
| 13 11 00 | J0038+4137 | 07 48 24 | 23.5 | 309.0 | 7.2 | | 38.7 | 14 | 197 | 13 11 00 |
| 13 11 40 | =0035+413 | 07 49 04 | 23.4 | 309.1 | 7.2 | | 38.6 | 40 | 198 | 13 11 01 |
| 13 12 00 | M31_MSR | 07 49 24 | 23.8 | 308.0 | 7.1 | | 39.1 | 6 | 198 | 13 12 00 |
| 13 14 40 | --- | 07 52 04 | 23.5 | 308.4 | 7.1 | | 38.8 | 160 | 201 | 13 12 01 |
| 13 15 00 | J0038+4137 | 07 52 24 | 23.0 | 309.6 | 7.2 | | 38.3 | 5 | 201 | 13 15 00 |
| 13 15 40 | =0035+413 | 07 53 04 | 22.9 | 309.7 | 7.2 | | 38.2 | 40 | 201 | 13 15 01 |
| 13 16 00 | M31_MSR | 07 53 25 | 23.4 | 308.6 | 7.1 | | 38.7 | 6 | 201 | 13 16 00 |
| 13 18 40 | --- | 07 56 05 | 23.1 | 309.1 | 7.2 | | 38.4 | 160 | 204 | 13 16 01 |
| 13 19 00 | J0038+4137 | 07 56 25 | 22.6 | 310.3 | 7.3 | | 37.9 | 5 | 204 | 13 19 00 |
| 13 19 40 | =0035+413 | 07 57 05 | 22.5 | 310.4 | 7.3 | | 37.8 | 40 | 204 | 13 19 01 |
| 13 20 00 | M31_MSR | 07 57 25 | 22.9 | 309.3 | 7.2 | | 38.3 | 6 | 204 | 13 20 00 |
| 13 22 40 | --- | 08 00 06 | 22.6 | 309.7 | 7.2 | | 38.0 | 160 | 207 | 13 20 01 |
| 13 23 00 | J0038+4137 | 08 00 26 | 22.1 | 310.9 | 7.4 | | 37.4 | 5 | 207 | 13 23 00 |
| 13 24 00 | =0035+413 | 08 01 26 | 22.0 | 311.1 | 7.4 | | 37.3 | 60 | 208 | 13 23 01 |

Schedule for TORUN (Code Tr ) Page 11

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 13 24 20 | J0038+4137 | 08 01 46 | 22.0 | 311.1 | 7.4 | | 37.3 | 14 | 208 | 13 24 20 |
| 13 25 00 | =0035+413 | 08 02 26 | 21.9 | 311.2 | 7.4 | | 37.2 | 40 | 209 | 13 24 21 |
| 13 25 20 | M31_MSR | 08 02 46 | 22.3 | 310.1 | 7.3 | | 37.7 | 6 | 209 | 13 25 20 |
| 13 28 00 | --- | 08 05 27 | 22.0 | 310.6 | 7.3 | | 37.5 | 160 | 211 | 13 25 21 |
| 13 28 20 | J0038+4137 | 08 05 47 | 21.5 | 311.8 | 7.4 | | 36.9 | 5 | 211 | 13 28 20 |
| 13 29 00 | =0035+413 | 08 06 27 | 21.4 | 311.9 | 7.5 | | 36.8 | 40 | 212 | 13 28 21 |
| 13 29 20 | M31_MSR | 08 06 47 | 21.8 | 310.8 | 7.4 | | 37.3 | 6 | 212 | 13 29 20 |
| 13 32 00 | --- | 08 09 27 | 21.5 | 311.2 | 7.4 | | 37.0 | 160 | 214 | 13 29 21 |
| 13 32 20 | J0038+4137 | 08 09 47 | 21.1 | 312.4 | 7.5 | | 36.4 | 5 | 214 | 13 32 20 |
| 13 33 00 | =0035+413 | 08 10 27 | 21.0 | 312.5 | 7.5 | | 36.4 | 40 | 215 | 13 32 21 |
| 13 33 20 | M31_MSR | 08 10 47 | 21.4 | 311.4 | 7.4 | | 36.9 | 6 | 215 | 13 33 20 |
| 13 36 00 | --- | 08 13 28 | 21.1 | 311.9 | 7.5 | | 36.6 | 160 | 218 | 13 33 21 |
| 13 36 20 | J0038+4137 | 08 13 48 | 20.6 | 313.0 | 7.6 | | 36.0 | 5 | 218 | 13 36 20 |
| 13 37 20 | =0035+413 | 08 14 48 | 20.5 | 313.2 | 7.6 | | 35.9 | 60 | 219 | 13 36 21 |
| 13 37 40 | J0038+4137 | 08 15 08 | 20.5 | 313.3 | 7.6 | | 35.8 | 14 | 219 | 13 37 40 |
| 13 38 20 | =0035+413 | 08 15 48 | 20.4 | 313.4 | 7.6 | | 35.8 | 40 | 219 | 13 37 41 |
| 13 38 40 | M31_MSR | 08 16 08 | 20.8 | 312.3 | 7.5 | | 36.3 | 6 | 219 | 13 38 40 |
| 13 41 20 | --- | 08 18 49 | 20.5 | 312.7 | 7.6 | | 36.0 | 160 | 222 | 13 38 41 |
| 13 41 40 | J0038+4137 | 08 19 09 | 20.0 | 313.9 | 7.7 | | 35.4 | 5 | 222 | 13 41 40 |
| 13 42 20 | =0035+413 | 08 19 49 | 20.0 | 314.0 | 7.7 | | 35.3 | 40 | 222 | 13 41 41 |
| 13 42 40 | M31_MSR | 08 20 09 | 20.3 | 312.9 | 7.6 | | 35.9 | 6 | 222 | 13 42 40 |
| 13 45 20 | --- | 08 22 49 | 20.0 | 313.4 | 7.6 | | 35.6 | 160 | 225 | 13 42 41 |
| 13 45 40 | J0038+4137 | 08 23 09 | 19.6 | 314.6 | 7.7 | | 35.0 | 5 | 225 | 13 45 40 |
| 13 46 20 | =0035+413 | 08 23 50 | 19.5 | 314.7 | 7.7 | | 34.9 | 40 | 226 | 13 45 41 |
| 13 46 40 | M31_MSR | 08 24 10 | 19.9 | 313.6 | 7.7 | | 35.4 | 6 | 226 | 13 46 40 |
| 13 49 20 | --- | 08 26 50 | 19.6 | 314.0 | 7.7 | | 35.1 | 160 | 228 | 13 46 41 |
| 13 49 40 | J0038+4137 | 08 27 10 | 19.2 | 315.2 | 7.8 | | 34.5 | 5 | 228 | 13 49 40 |
| 13 50 40 | =0035+413 | 08 28 10 | 19.1 | 315.4 | 7.8 | | 34.4 | 60 | 229 | 13 49 41 |
| 13 51 00 | J0038+4137 | 08 28 30 | 19.0 | 315.4 | 7.8 | | 34.4 | 14 | 229 | 13 51 00 |
| 13 51 40 | =0035+413 | 08 29 10 | 19.0 | 315.5 | 7.8 | | 34.3 | 40 | 230 | 13 51 01 |

Schedule for TORUN (Code Tr ) Page 12

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 13 52 00 | M31_MSR | 08 29 30 | 19.3 | 314.5 | 7.7 | | 34.8 | 6 | 230 | 13 52 00 |
| 13 54 40 | --- | 08 32 11 | 19.0 | 314.9 | 7.8 | | 34.5 | 160 | 232 | 13 52 01 |
| 13 55 00 | J0038+4137 | 08 32 31 | 18.6 | 316.1 | 7.9 | | 33.9 | 5 | 232 | 13 55 00 |
| 13 55 40 | =0035+413 | 08 33 11 | 18.5 | 316.2 | 7.9 | | 33.8 | 40 | 233 | 13 55 01 |
| 13 56 00 | M31_MSR | 08 33 31 | 18.9 | 315.1 | 7.8 | | 34.4 | 6 | 233 | 13 56 00 |
| 13 58 40 | --- | 08 36 12 | 18.6 | 315.5 | 7.9 | | 34.1 | 160 | 236 | 13 56 01 |
| 13 59 00 | J0038+4137 | 08 36 32 | 18.2 | 316.7 | 8.0 | | 33.4 | 5 | 236 | 13 59 00 |
| 13 59 40 | =0035+413 | 08 37 12 | 18.1 | 316.9 | 8.0 | | 33.4 | 40 | 236 | 13 59 01 |
| 14 00 00 | M31_MSR | 08 37 32 | 18.5 | 315.8 | 7.9 | | 33.9 | 6 | 236 | 14 00 00 |
| 14 02 40 | --- | 08 40 12 | 18.2 | 316.2 | 7.9 | | 33.6 | 160 | 239 | 14 00 01 |
| 14 03 00 | J0038+4137 | 08 40 32 | 17.8 | 317.4 | 8.0 | | 33.0 | 5 | 239 | 14 03 00 |
| 14 04 00 | =0035+413 | 08 41 32 | 17.7 | 317.6 | 8.0 | | 32.9 | 60 | 240 | 14 03 01 |
| 14 04 20 | J0038+4137 | 08 41 52 | 17.6 | 317.6 | 8.0 | | 32.8 | 14 | 240 | 14 04 20 |
| 14 05 00 | =0035+413 | 08 42 33 | 17.6 | 317.7 | 8.1 | | 32.7 | 40 | 240 | 14 04 21 |
| 14 05 20 | M31_MSR | 08 42 53 | 17.9 | 316.6 | 8.0 | | 33.3 | 6 | 240 | 14 05 20 |
| 14 08 00 | --- | 08 45 33 | 17.6 | 317.1 | 8.0 | | 33.0 | 160 | 243 | 14 05 21 |
| 14 08 20 | J0038+4137 | 08 45 53 | 17.2 | 318.3 | 8.1 | | 32.4 | 5 | 243 | 14 08 20 |
| 14 09 00 | =0035+413 | 08 46 33 | 17.2 | 318.4 | 8.1 | | 32.3 | 40 | 244 | 14 08 21 |
| 14 09 20 | M31_MSR | 08 46 53 | 17.5 | 317.3 | 8.0 | | 32.9 | 6 | 244 | 14 09 20 |
| 14 12 00 | --- | 08 49 34 | 17.2 | 317.7 | 8.1 | | 32.6 | 160 | 246 | 14 09 21 |
| 14 12 20 | J0038+4137 | 08 49 54 | 16.8 | 318.9 | 8.2 | | 31.9 | 5 | 246 | 14 12 20 |
| 14 13 00 | =0035+413 | 08 50 34 | 16.8 | 319.1 | 8.2 | | 31.8 | 40 | 247 | 14 12 21 |
| 14 13 20 | M31_MSR | 08 50 54 | 17.1 | 318.0 | 8.1 | | 32.4 | 6 | 247 | 14 13 20 |
| 14 16 00 | --- | 08 53 34 | 16.8 | 318.4 | 8.1 | | 32.1 | 160 | 249 | 14 13 21 |
| 14 16 20 | J0038+4137 | 08 53 54 | 16.5 | 319.6 | 8.2 | | 31.4 | 5 | 249 | 14 16 20 |
| 14 17 20 | =0035+413 | 08 54 55 | 16.4 | 319.8 | 8.3 | | 31.3 | 60 | 250 | 14 16 21 |
| 14 17 40 | J0038+4137 | 08 55 15 | 16.3 | 319.8 | 8.3 | | 31.2 | 14 | 250 | 14 17 40 |
| 14 18 20 | =0035+413 | 08 55 55 | 16.3 | 319.9 | 8.3 | | 31.2 | 40 | 251 | 14 17 41 |
| 14 18 40 | M31_MSR | 08 56 15 | 16.6 | 318.9 | 8.2 | | 31.8 | 6 | 251 | 14 18 40 |
| 14 21 20 | --- | 08 58 55 | 16.3 | 319.3 | 8.2 | | 31.5 | 160 | 254 | 14 18 41 |
| 14 21 40 | J0038+4137 | 08 59 15 | 15.9 | 320.5 | 8.3 | | 30.8 | 5 | 254 | 14 21 40 |
| 14 22 20 | =0035+413 | 08 59 55 | 15.9 | 320.6 | 8.3 | | 30.7 | 40 | 254 | 14 21 41 |

Schedule for TORUN (Code Tr ) Page 13

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| 14 22 40 | M31_MSR | 09 00 15 | 16.2 | 319.5 | 8.3 | | 31.3 | 6 | 254 | 14 22 40 |
| 14 25 20 | --- | 09 02 56 | 15.9 | 320.0 | 8.3 | | 31.0 | 160 | 257 | 14 22 41 |
| 14 25 40 | J0038+4137 | 09 03 16 | 15.6 | 321.2 | 8.4 | | 30.3 | 5 | 257 | 14 25 40 |
| 14 26 20 | =0035+413 | 09 03 56 | 15.5 | 321.3 | 8.4 | | 30.2 | 40 | 257 | 14 25 41 |
| 14 26 40 | M31_MSR | 09 04 16 | 15.8 | 320.2 | 8.3 | | 30.8 | 6 | 257 | 14 26 40 |
| 14 29 20 | --- | 09 06 57 | 15.5 | 320.6 | 8.4 | | 30.5 | 160 | 260 | 14 26 41 |
| 14 29 40 | J0038+4137 | 09 07 17 | 15.2 | 321.8 | 8.5 | | 29.8 | 5 | 260 | 14 29 40 |
| 14 30 40 | =0035+413 | 09 08 17 | 15.1 | 322.0 | 8.5 | | 29.7 | 60 | 261 | 14 29 41 |
| 14 31 00 | J0038+4137 | 09 08 37 | 15.1 | 322.1 | 8.5 | | 29.6 | 14 | 261 | 14 31 00 |
| 14 31 40 | =0035+413 | 09 09 17 | 15.0 | 322.2 | 8.5 | | 29.5 | 40 | 262 | 14 31 01 |
| 14 32 00 | M31_MSR | 09 09 37 | 15.3 | 321.1 | 8.4 | | 30.2 | 6 | 262 | 14 32 00 |
| 14 34 40 | --- | 09 12 17 | 15.0 | 321.5 | 8.5 | | 29.9 | 160 | 264 | 14 32 01 |
| 14 35 00 | J0038+4137 | 09 12 38 | 14.7 | 322.7 | 8.6 | | 29.1 | 5 | 264 | 14 35 00 |
| 14 35 40 | =0035+413 | 09 13 18 | 14.6 | 322.9 | 8.6 | | 29.0 | 40 | 265 | 14 35 01 |
| 14 36 00 | M31_MSR | 09 13 38 | 14.9 | 321.8 | 8.5 | | 29.7 | 6 | 265 | 14 36 00 |
| 14 38 40 | --- | 09 16 18 | 14.6 | 322.2 | 8.5 | | 29.4 | 160 | 267 | 14 36 01 |
| 14 39 00 | J0038+4137 | 09 16 38 | 14.3 | 323.4 | 8.6 | | 28.6 | 5 | 267 | 14 39 00 |
| 14 39 40 | =0035+413 | 09 17 18 | 14.3 | 323.5 | 8.6 | | 28.6 | 40 | 268 | 14 39 01 |
| 14 40 00 | M31_MSR | 09 17 38 | 14.5 | 322.4 | 8.5 | | 29.2 | 6 | 268 | 14 40 00 |
| 14 42 40 | --- | 09 20 19 | 14.3 | 322.9 | 8.6 | | 28.9 | 160 | 271 | 14 40 01 |
| 14 43 00 | J0038+4137 | 09 20 39 | 14.0 | 324.1 | 8.7 | | 28.1 | 5 | 271 | 14 43 00 |
| 14 44 00 | =0035+413 | 09 21 39 | 13.9 | 324.3 | 8.7 | | 28.0 | 60 | 271 | 14 43 01 |
| 14 44 20 | J0038+4137 | 09 21 59 | 13.9 | 324.3 | 8.7 | | 28.0 | 14 | 271 | 14 44 20 |
| 14 45 00 | =0035+413 | 09 22 39 | 13.8 | 324.4 | 8.7 | | 27.9 | 40 | 272 | 14 44 21 |
| 14 45 00 | J0038+4137 | 09 22 39 | 13.8 | 324.4 | 8.7 | | 27.9 | -5 | 272 | No stop |
| 14 46 00 | =0035+413 | 09 23 39 | 13.7 | 324.6 | 8.7 | | 27.8 | 55 | 273 | 14 45 01 |
| 14 46 20 | 3C48 | 09 23 59 | 12.4 | 309.9 | 7.8 | | 33.4 | -24 | 273 | 14 46 20 |
| 14 51 20 | --- | 09 29 00 | 11.8 | 310.8 | 7.8 | | 32.9 | 276 | 278 | 14 46 21 |
| 14 52 40 | 3C84 | 09 30 20 | 30.8 | 299.5 | 6.2 | | 44.3 | -5 | 278 | 14 52 40 |
| 14 55 30 | --- | 09 33 11 | 30.4 | 300.0 | 6.2 | | 44.0 | 165 | 281 | 14 52 41 |
| 14 55 30 | 3C84 | 09 33 11 | 30.4 | 300.0 | 6.2 | | 44.0 | -5 | 281 | No stop |
| 15 00 00 | --- | 09 37 42 | 29.8 | 300.7 | 6.3 | | 43.6 | 265 | 285 | 14 55 31 |

SETUP FILE INFORMATION:

```
   Setup group:   18         Station: TORUN            Total bit rate:   128
   Format: MARK5B            Bits per sample: 2        Sample rate: 32.000
   Number of channels:  2    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.

   1st LO=   5900.00   5900.00
   Net SB=         U         U
   IF SB =         U         U
   Pol.  =       RCP       LCP
   BBC   =         1         5
   BBC SB=         U         U
   IF    =        A1        B1

  The following frequency sets based on these setups were used.

  Frequency Set:   6  Based on FREQ, BW, and/or DOPPLER in schedule.  Used with PCAL = off
   LO sum=   6666.25  6666.25
   BBC fr=    766.25   766.25
   Bandwd=     16.00    16.00
    Matching frequency sets:   6

   Track assignments are:
    track1=   2,  4
    barrel=roll_off
```

POSITIONS OF SOURCES USED IN RECORDING SCANS

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * M31_MSR | 00 41 34.512795 | * 00 44 19.170000 | 00 45 07.263605 | 0.00 |
| | 41 03 06.21546 | * 41 19 30.60000 | 41 24 02.10406 | 0.00 |
| * J0038+4137 | 00 35 41.568818 | * 00 38 24.843586 | 00 39 12.581204 | 0.14 |
| 0035+413 | 41 20 37.14185 | * 41 37 06.00024 | 41 41 38.91789 | 0.10 |
| J0137+3309 | 01 34 49.826374 | * 01 37 41.299440 | 01 38 30.924758 | 0.52 |
| * 3C48 | 32 54 20.25881 | * 33 09 35.13299 | 33 13 46.99875 | 0.50 |
| J0319+4130 | 03 16 29.567260 | * 03 19 48.160090 | 03 20 45.056458 | 1.30 |
| * 3C84 | 41 19 51.91699 | * 41 30 42.10412 | 41 33 34.88918 | 2.72 |
| J2253+1608 | 22 51 29.519738 | * 22 53 57.747937 | 22 54 41.360274 | 0.68 |
| * 3C454.3 | 15 52 54.34810 | * 16 08 53.56093 | 16 13 29.68798 | 0.72 |

EFFECT OF SOLAR CORONA

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) |
|---|---|
| M31_MSR | 59.8 |
| J0038+4137 | 60.9 |
| 3C48 | 49.9 |
| 3C84 | 31.4 |
| 3C454.3 | 89.9 |

# es072htr

## 6.7GHz CH3OH maser polarization towards massive protostars. II.

PI: *G. Surcis*


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Observing mode: Polarization observations of 1 sources at 6.7 GHz (32 Mb/s
Notes: source = G28.31-0.39

Schedule for TORUN (Code Tr ) Page 2
6.7GHz CH3OH maser polarization towards massive protostars. II.
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 12 Jun 2014 Day 163 --- | | | | | | | | | | |
| Next scan frequencies: | | 6666.28 | 6666.28 | 6666.28 | 6666.28 | | | | | |
| Next BBC frequencies: | | 766.28 | 766.28 | 766.28 | 766.28 | | | | | |
| Next scan bandwidths: | | 2.00 | 2.00 | 2.00 | 2.00 | | | | | |
| 21 30 00 | J2202+4216 | 16 08 46 | 33.3 | 62.1 | -5.9 | | -45.9 | 0 | 0 | 21 30 00 |
| 21 40 00 | =BLLAC | 16 18 47 | 34.6 | 63.7 | -5.7 | | -46.7 | 600 | 2 | 21 30 01 |
| 21 43 50 | G28.31-0.39 | 16 22 38 | 25.3 | 140.0 | -2.4 | | -22.8 | 63 | 2 | 21 43 50 |
| 21 53 50 | --- | 16 32 40 | 26.2 | 142.6 | -2.2 | | -21.5 | 600 | 5 | 21 43 51 |
| 21 54 20 | G28.31-0.39 | 16 33 10 | 26.3 | 142.7 | -2.2 | | -21.4 | 24 | 5 | 21 54 20 |
| 22 04 20 | --- | 16 43 11 | 27.2 | 145.3 | -2.0 | | -20.0 | 600 | 7 | 21 54 21 |
| 22 04 50 | G28.31-0.39 | 16 43 41 | 27.2 | 145.5 | -2.0 | | -20.0 | 24 | 7 | 22 04 50 |
| 22 14 50 | --- | 16 53 43 | 28.0 | 148.1 | -1.9 | | -18.5 | 600 | 10 | 22 04 51 |
| 22 15 20 | G28.31-0.39 | 16 54 13 | 28.1 | 148.3 | -1.8 | | -18.5 | 24 | 10 | 22 15 20 |
| 22 25 20 | --- | 17 04 15 | 28.8 | 151.0 | -1.7 | | -17.0 | 600 | 12 | 22 15 21 |
| 22 29 20 | J2202+4216 | 17 08 15 | 41.5 | 71.4 | -4.9 | | -50.3 | 65 | 12 | 22 29 20 |
| 22 39 20 | =BLLAC | 17 18 17 | 42.9 | 72.9 | -4.8 | | -51.0 | 600 | 15 | 22 29 21 |
| 22 49 00 | J1331+3030 | 17 27 59 | 42.2 | 266.1 | 3.9 | | 44.0 | 180 | 15 | 22 49 00 |
| 22 59 00 | =3C286 | 17 38 00 | 40.7 | 268.2 | 4.1 | | 44.1 | 600 | 17 | 22 49 01 |
| 22 59 30 | J1331+3030 | 17 38 30 | 40.6 | 268.3 | 4.1 | | 44.1 | 24 | 17 | 22 59 30 |
| 23 09 30 | =3C286 | 17 48 32 | 39.1 | 270.3 | 4.3 | | 44.1 | 600 | 19 | 22 59 31 |
| 23 15 20 | G28.31-0.39 | 17 54 23 | 31.6 | 165.1 | -0.8 | | -8.9 | 123 | 19 | 23 15 20 |
| 23 25 20 | --- | 18 04 25 | 32.0 | 168.0 | -0.7 | | -7.2 | 600 | 22 | 23 15 21 |
| 23 25 50 | G28.31-0.39 | 18 04 55 | 32.0 | 168.1 | -0.7 | | -7.1 | 24 | 22 | 23 25 50 |
| 23 35 50 | --- | 18 14 56 | 32.3 | 171.1 | -0.5 | | -5.4 | 600 | 24 | 23 25 51 |
| 23 40 10 | J2202+4216 | 18 19 17 | 51.9 | 83.1 | -3.7 | | -53.8 | 69 | 24 | 23 40 10 |
| 23 50 10 | =BLLAC | 18 29 19 | 53.4 | 84.9 | -3.6 | | -54.0 | 600 | 27 | 23 40 11 |

Schedule for TORUN (Code Tr ) Page 3

6.7GHz CH3OH maser polarization towards massive protostars. II.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Start: Thu 12 Jun 2014 Day 163 -- Stop: Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 23 54 40 | G28.31-0.39 | 18 33 49 | 32.6 | 176.6 | -0.2 | | -2.0 | 72 | 27 | 23 54 40 |
| 00 04 40 | --- | 18 43 51 | 32.6 | 179.6 | -0.0 | | -0.2 | 600 | 29 | 23 54 41 |
| 00 05 10 | G28.31-0.39 | 18 44 21 | 32.6 | 179.8 | -0.0 | | -0.1 | 24 | 29 | 00 05 10 |
| 00 15 10 | --- | 18 54 23 | 32.6 | 182.7 | 0.2 | | 1.6 | 600 | 31 | 00 05 11 |
| 00 15 40 | G28.31-0.39 | 18 54 53 | 32.6 | 182.9 | 0.2 | | 1.7 | 24 | 31 | 00 15 40 |
| 00 25 40 | --- | 19 04 55 | 32.5 | 185.8 | 0.3 | | 3.5 | 600 | 34 | 00 15 41 |
| 00 26 10 | G28.31-0.39 | 19 05 25 | 32.5 | 186.0 | 0.3 | | 3.6 | 24 | 34 | 00 26 10 |
| 00 34 10 | --- | 19 13 26 | 32.3 | 188.3 | 0.5 | | 5.0 | 480 | 36 | 00 26 11 |
| 00 38 50 | J2202+4216 | 19 18 07 | 60.7 | 94.6 | -2.8 | | -54.1 | 77 | 36 | 00 38 50 |
| 00 48 50 | =BLLAC | 19 28 08 | 62.2 | 96.9 | -2.6 | | -53.8 | 600 | 38 | 00 38 51 |
| 00 53 40 | G28.31-0.39 | 19 32 59 | 31.7 | 194.1 | 0.8 | | 8.4 | 82 | 38 | 00 53 40 |
| 01 03 40 | --- | 19 43 01 | 31.3 | 197.0 | 1.0 | | 10.1 | 600 | 41 | 00 53 41 |
| 01 04 10 | G28.31-0.39 | 19 43 31 | 31.3 | 197.1 | 1.0 | | 10.2 | 24 | 41 | 01 04 10 |
| 01 14 10 | --- | 19 53 33 | 30.8 | 200.0 | 1.1 | | 11.9 | 600 | 43 | 01 04 11 |
| 01 14 40 | G28.31-0.39 | 19 54 03 | 30.8 | 200.1 | 1.1 | | 11.9 | 24 | 43 | 01 14 40 |
| 01 24 40 | --- | 20 04 04 | 30.3 | 202.9 | 1.3 | | 13.6 | 600 | 45 | 01 14 41 |
| 01 25 10 | G28.31-0.39 | 20 04 34 | 30.2 | 203.1 | 1.3 | | 13.7 | 24 | 45 | 01 25 10 |
| 01 35 10 | --- | 20 14 36 | 29.6 | 205.9 | 1.5 | | 15.2 | 600 | 48 | 01 25 11 |
| 01 40 10 | J2202+4216 | 20 19 37 | 69.7 | 111.5 | -1.7 | | -49.1 | 95 | 48 | 01 40 10 |
| 01 50 10 | =BLLAC | 20 29 38 | 71.1 | 115.1 | -1.6 | | -47.4 | 600 | 50 | 01 40 11 |
| 01 55 20 | G28.31-0.39 | 20 34 49 | 28.2 | 211.4 | 1.8 | | 18.3 | 103 | 50 | 01 55 20 |
| 02 05 20 | --- | 20 44 51 | 27.3 | 214.1 | 2.0 | | 19.7 | 600 | 53 | 01 55 21 |
| 02 05 50 | G28.31-0.39 | 20 45 21 | 27.3 | 214.2 | 2.0 | | 19.8 | 24 | 53 | 02 05 50 |
| 02 15 50 | --- | 20 55 23 | 26.4 | 216.8 | 2.2 | | 21.2 | 600 | 55 | 02 05 51 |
| 02 16 20 | G28.31-0.39 | 20 55 53 | 26.4 | 216.9 | 2.2 | | 21.2 | 24 | 55 | 02 16 20 |
| 02 26 20 | --- | 21 05 54 | 25.5 | 219.5 | 2.3 | | 22.5 | 600 | 58 | 02 16 21 |
| 02 26 50 | G28.31-0.39 | 21 06 24 | 25.4 | 219.7 | 2.4 | | 22.6 | 24 | 58 | 02 26 50 |
| 02 36 50 | --- | 21 16 26 | 24.4 | 222.2 | 2.5 | | 23.9 | 600 | 60 | 02 26 51 |
| 02 42 00 | J2202+4216 | 21 21 37 | 77.2 | 142.9 | -0.7 | | -29.4 | 99 | 60 | 02 42 00 |
| 02 52 00 | =BLLAC | 21 31 39 | 78.0 | 150.6 | -0.5 | | -23.5 | 600 | 62 | 02 42 01 |

Schedule for TORUN (Code Tr ) Page 4

6.7GHz CH3OH maser polarization towards massive protostars. II.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 02 54 50 | J2136+0041 | 21 34 29 | 37.7 | 179.1 | -0.0 | | -0.6 | 5 | 62 | 02 54 50 |
| 03 04 50 | =2134+00 | 21 44 31 | 37.6 | 182.2 | 0.1 | | 1.3 | 600 | 65 | 02 54 51 |
| 03 07 40 | G28.31-0.39 | 21 47 21 | 21.1 | 229.7 | 3.0 | | 27.3 | 61 | 65 | 03 07 40 |
| 03 17 40 | --- | 21 57 23 | 19.9 | 232.1 | 3.2 | | 28.4 | 600 | 67 | 03 07 41 |
| 03 18 10 | G28.31-0.39 | 21 57 53 | 19.9 | 232.2 | 3.2 | | 28.4 | 24 | 67 | 03 18 10 |
| 03 27 10 | --- | 22 06 54 | 18.8 | 234.3 | 3.4 | | 29.3 | 540 | 69 | 03 18 11 |
| 03 27 40 | G28.31-0.39 | 22 07 24 | 18.7 | 234.4 | 3.4 | | 29.3 | 24 | 69 | 03 27 40 |
| 03 36 40 | --- | 22 16 26 | 17.6 | 236.5 | 3.5 | | 30.1 | 540 | 72 | 03 27 41 |
| 03 41 30 | J2202+4216 | 22 21 17 | 78.8 | 197.4 | 0.3 | | 14.0 | 46 | 72 | 03 41 30 |
| 03 50 10 | =BLLAC | 22 29 58 | 78.4 | 205.1 | 0.4 | | 20.2 | 520 | 74 | 03 41 31 |
| 03 55 00 | G28.31-0.39 | 22 34 49 | 15.2 | 240.6 | 3.8 | | 31.6 | 40 | 74 | 03 55 00 |
| 04 05 00 | --- | 22 44 51 | 13.9 | 242.8 | 4.0 | | 32.4 | 600 | 76 | 03 55 01 |
| 04 05 30 | G28.31-0.39 | 22 45 21 | 13.8 | 242.9 | 4.0 | | 32.4 | 24 | 76 | 04 05 30 |
| 04 15 30 | --- | 22 55 22 | 12.5 | 245.0 | 4.2 | | 33.1 | 600 | 79 | 04 05 31 |
| 04 20 00 | J2202+4216 | 22 59 53 | 75.7 | 226.9 | 0.9 | | 36.4 | 19 | 79 | 04 20 00 |
| 04 30 00 | =BLLAC | 23 09 55 | 74.5 | 232.6 | 1.1 | | 40.2 | 600 | 81 | 04 20 01 |

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: sess214.M32
--- WARNING --- This group does not match an entry in the frequency catalog.
This might be ok because the catalog is not complete.
But be very careful to be sure that the setup is correct.

Setup group: 7 Station: TORUN Total bit rate: 32
Format: MARK5B Bits per sample: 2 Sample rate: 4.000
Number of channels: 4 DBE type: Speedup factor: 1.00

Disk used to record data.

| | | | | |
|---|---|---|---|---|
| 1st LO= | 5900.00 | 5900.00 | 5900.00 | 5900.00 |
| Net SB= | U | U | U | U |
| Pol. = | RCP | LCP | RCP | LCP |
| BBC = | 1 | 5 | 2 | 6 |
| BBC SB= | U | U | U | U |
| IF = | A1 | B1 | A1 | B1 |

```
 The following frequency sets based on these setups were used.

 Frequency Set:   5  Based on FREQ, BW, and/or DOPPLER in schedule.
  LO sum=   6666.28  6666.28  6666.28  6666.28
  BBC fr=    766.28   766.28   766.28   766.28
  Bandwd=      2.00     2.00     2.00     2.00
   Matching frequency sets:   5

  Track assignments are:
   track1=   2,  4,  6,  8
   barrel=roll_off
```

SOURCES USED IN RECORDING SCANS -- 6.7GHz CH3OH maser polarization towards massive protostars. II.

Catalog positions marked with *.
Precession of date coordinates is based on stop time of first scan.
Names used in schedule marked with *.
Short names used in VLA and SNAP files marked with +.
Observation date used in B1950/J2000 coordinate conversion (PRECDATE): 1979.900
No adjustments are made for rates (DRA, DDEC).
Scan hours are for recording scans only.
Baseline hours are only counted for scans above horizon at both ends.

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * G28.31-0.39 | 18 41 43.283845 | * 18 44 22.030000 | 18 45 09.588575 | 0.00 |
| | -04 20 45.44034 | *-04 17 38.30000 | -04 16 33.44860 | 0.00 |
| * J1331+3030 | 13 28 49.657778 | * 13 31 08.288070 | 13 31 49.165372 | 0.20 |
| 3C286 | 30 45 58.64061 | * 30 30 32.95925 | 30 26 14.79872 | 0.19 |
| * J2136+0041 | 21 34 05.207371 | * 21 36 38.586306 | 21 37 23.936466 | 0.74 |
| 2134+00 | 00 28 25.08000 | * 00 41 54.21282 | 00 45 55.33196 | 1.25 |
| * J2202+4216 | 22 00 39.362504 | * 22 02 43.291371 | 22 03 20.622345 | 0.14 |
| BLLAC | 42 02 08.59073 | * 42 16 39.97987 | 42 20 45.96867 | 0.10 |

```
 The solar corona can cause unstable phases for sources too close to the Sun.
 SCHED provides warnings at individual scans for distances less than 10 degrees.
 The distance from the Sun to each source in this schedule is:
   Source         Sun distance (deg)
  G28.31-0.39        152.9
  J1331+3030         102.5
  J2136+0041         114.3
  J2202+4216          88.4

 Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
 that the Sun will cause amplitude reductions on the  longest VLBA baselines
 at a solar distance of 60deg F^(-0.6) where F is in GHz.
 For common VLBI bands, this is:
      610 MHz         81. deg
      1.6 GHz         45. deg
      2.3 GHz         36. deg
      5.0 GHz         23. deg
      8.4 GHz         17. deg
     15.0 GHz         12. deg
     22.0 GHz          9. deg
```

# gp051btr

## Methanol in M31

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Albuquerque, NM 87131, USA
Phone: +1-505-277-4492 EMAIL: ylva@unm.edu



Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| Next scan frequencies: | | 6666.25 | 6666.25 | | | | | | | |
| Next BBC frequencies: | | 766.25 | 766.25 | | | | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | | | | | | | |
| 09 00 00 | 3C454.3 | 03 40 39 | 24.0 | 265.2 | 4.8 | | 38.6 | 0 | 0 | 09 00 00 |
| 09 03 00 | --- | 03 43 40 | 23.5 | 265.8 | 4.8 | | 38.6 | 180 | 3 | 09 00 01 |
| 09 03 20 | 3C454.3 | 03 44 00 | 23.5 | 265.9 | 4.8 | | 38.6 | 14 | 3 | 09 03 20 |
| 09 04 20 | --- | 03 45 00 | 23.3 | 266.1 | 4.8 | | 38.6 | 60 | 4 | 09 03 21 |
| 09 04 40 | 3C454.3 | 03 45 20 | 23.3 | 266.2 | 4.8 | | 38.6 | 14 | 4 | 09 04 40 |
| 09 08 40 | --- | 03 49 20 | 22.7 | 267.0 | 4.9 | | 38.6 | 240 | 8 | 09 04 41 |
| 09 09 50 | J0038+4137 | 03 50 31 | 56.4 | 269.8 | 3.2 | | 53.5 | -70 | 8 | 09 09 50 |
| 09 11 50 | =0035+413 | 03 52 31 | 56.1 | 270.2 | 3.2 | | 53.5 | 50 | 10 | 09 09 51 |
| 09 12 10 | J0038+4137 | 03 52 51 | 56.0 | 270.3 | 3.2 | | 53.5 | 14 | 10 | 09 12 10 |
| 09 13 10 | =0035+413 | 03 53 51 | 55.9 | 270.5 | 3.2 | | 53.5 | 60 | 11 | 09 12 11 |
| 09 13 30 | M31_MSR | 03 54 11 | 56.6 | 269.0 | 3.2 | | 53.2 | 4 | 11 | 09 13 30 |
| 09 16 10 | --- | 03 56 52 | 56.2 | 269.5 | 3.2 | | 53.2 | 160 | 13 | 09 13 31 |
| 09 16 30 | J0038+4137 | 03 57 12 | 55.4 | 271.2 | 3.3 | | 53.5 | 4 | 13 | 09 16 30 |
| 09 17 10 | =0035+413 | 03 57 52 | 55.3 | 271.3 | 3.3 | | 53.5 | 40 | 14 | 09 16 31 |
| 09 17 30 | M31_MSR | 03 58 12 | 56.0 | 269.8 | 3.2 | | 53.2 | 4 | 14 | 09 17 30 |
| 09 20 10 | --- | 04 00 52 | 55.6 | 270.3 | 3.3 | | 53.2 | 160 | 16 | 09 17 31 |
| 09 20 30 | J0038+4137 | 04 01 12 | 54.8 | 271.9 | 3.4 | | 53.5 | 4 | 16 | 09 20 30 |
| 09 21 10 | =0035+413 | 04 01 53 | 54.7 | 272.1 | 3.4 | | 53.5 | 40 | 17 | 09 20 31 |
| 09 21 30 | M31_MSR | 04 02 13 | 55.4 | 270.6 | 3.3 | | 53.2 | 4 | 17 | 09 21 30 |
| 09 24 10 | --- | 04 04 53 | 55.0 | 271.1 | 3.3 | | 53.2 | 160 | 20 | 09 21 31 |
| 09 24 30 | J0038+4137 | 04 05 13 | 54.2 | 272.7 | 3.4 | | 53.4 | 4 | 20 | 09 24 30 |
| 09 25 30 | =0035+413 | 04 06 13 | 54.0 | 272.9 | 3.5 | | 53.4 | 60 | 21 | 09 24 31 |

Schedule for TORUN (Code Tr ) Page 3

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Stop ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 09 25 50 | J0038+4137 | 04 06 33 | 54.0 | 273.0 | 3.5 | | 53.4 | 14 | 21 | 09 25 50 |
| 09 26 30 | =0035+413 | 04 07 13 | 53.9 | 273.1 | 3.5 | | 53.4 | 40 | 21 | 09 25 51 |
| 09 26 50 | M31_MSR | 04 07 33 | 54.6 | 271.6 | 3.4 | | 53.2 | 4 | 21 | 09 26 50 |
| 09 29 30 | --- | 04 10 14 | 54.2 | 272.1 | 3.4 | | 53.1 | 160 | 24 | 09 26 51 |
| 09 29 50 | J0038+4137 | 04 10 34 | 53.4 | 273.7 | 3.5 | | 53.4 | 4 | 24 | 09 29 50 |
| 09 30 30 | =0035+413 | 04 11 14 | 53.3 | 273.8 | 3.5 | | 53.4 | 40 | 24 | 09 29 51 |
| 09 30 50 | M31_MSR | 04 11 34 | 54.0 | 272.4 | 3.4 | | 53.1 | 4 | 24 | 09 30 50 |
| 09 33 30 | --- | 04 14 15 | 53.6 | 272.9 | 3.5 | | 53.1 | 160 | 27 | 09 30 51 |
| 09 33 50 | J0038+4137 | 04 14 35 | 52.8 | 274.5 | 3.6 | | 53.3 | 4 | 27 | 09 33 50 |
| 09 34 30 | =0035+413 | 04 15 15 | 52.7 | 274.6 | 3.6 | | 53.3 | 40 | 28 | 09 33 51 |
| 09 34 50 | M31_MSR | 04 15 35 | 53.4 | 273.2 | 3.5 | | 53.1 | 4 | 28 | 09 34 50 |
| 09 37 30 | --- | 04 18 15 | 52.9 | 273.7 | 3.6 | | 53.0 | 160 | 30 | 09 34 51 |
| 09 37 50 | J0038+4137 | 04 18 35 | 52.2 | 275.2 | 3.7 | | 53.2 | 4 | 30 | 09 37 50 |
| 09 38 50 | =0035+413 | 04 19 35 | 52.0 | 275.4 | 3.7 | | 53.2 | 60 | 31 | 09 37 51 |
| 09 39 10 | J0038+4137 | 04 19 55 | 52.0 | 275.4 | 3.7 | | 53.2 | 14 | 31 | 09 39 10 |
| 09 39 50 | =0035+413 | 04 20 36 | 51.9 | 275.6 | 3.7 | | 53.2 | 40 | 32 | 09 39 11 |
| 09 40 10 | M31_MSR | 04 20 56 | 52.5 | 274.2 | 3.6 | | 53.0 | 4 | 32 | 09 40 10 |
| 09 42 50 | --- | 04 23 36 | 52.1 | 274.7 | 3.6 | | 52.9 | 160 | 34 | 09 40 11 |
| 09 43 10 | J0038+4137 | 04 23 56 | 51.4 | 276.2 | 3.7 | | 53.1 | 4 | 34 | 09 43 10 |
| 09 43 50 | =0035+413 | 04 24 36 | 51.3 | 276.3 | 3.8 | | 53.1 | 40 | 35 | 09 43 11 |
| 09 44 10 | M31_MSR | 04 24 56 | 51.9 | 274.9 | 3.7 | | 52.9 | 4 | 35 | 09 44 10 |
| 09 46 50 | --- | 04 27 37 | 51.5 | 275.4 | 3.7 | | 52.8 | 160 | 37 | 09 44 11 |
| 09 47 10 | J0038+4137 | 04 27 57 | 50.8 | 276.9 | 3.8 | | 53.0 | 4 | 37 | 09 47 10 |
| 09 47 50 | =0035+413 | 04 28 37 | 50.7 | 277.0 | 3.8 | | 53.0 | 40 | 38 | 09 47 11 |
| 09 48 10 | M31_MSR | 04 28 57 | 51.3 | 275.6 | 3.7 | | 52.8 | 4 | 38 | 09 48 10 |
| 09 50 50 | --- | 04 31 37 | 51.0 | 276.1 | 3.8 | | 52.7 | 160 | 41 | 09 48 11 |
| 09 51 10 | J0038+4137 | 04 31 57 | 50.2 | 277.6 | 3.9 | | 52.9 | 4 | 41 | 09 51 10 |
| 09 52 10 | =0035+413 | 04 32 58 | 50.0 | 277.8 | 3.9 | | 52.8 | 60 | 42 | 09 51 11 |
| 09 52 30 | J0038+4137 | 04 33 18 | 50.0 | 277.8 | 3.9 | | 52.8 | 14 | 42 | 09 52 30 |
| 09 53 10 | =0035+413 | 04 33 58 | 49.9 | 278.0 | 3.9 | | 52.8 | 40 | 42 | 09 52 31 |
| 09 53 30 | M31_MSR | 04 34 18 | 50.6 | 276.6 | 3.8 | | 52.7 | 4 | 42 | 09 53 30 |
| 09 56 10 | --- | 04 36 58 | 50.2 | 277.1 | 3.9 | | 52.6 | 160 | 45 | 09 53 31 |

Schedule for TORUN (Code Tr ) Page 4

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 09 56 30 | J0038+4137 | 04 37 18 | 49.4 | 278.5 | 4.0 | | 52.7 | 4 | 45 | 09 56 30 |
| 09 57 10 | =0035+413 | 04 37 58 | 49.3 | 278.7 | 4.0 | | 52.7 | 40 | 46 | 09 56 31 |
| 09 57 30 | M31_MSR | 04 38 18 | 50.0 | 277.3 | 3.9 | | 52.6 | 5 | 46 | 09 57 30 |
| 10 00 10 | --- | 04 40 59 | 49.6 | 277.8 | 3.9 | | 52.5 | 160 | 48 | 09 57 31 |
| 10 00 30 | J0038+4137 | 04 41 19 | 48.8 | 279.2 | 4.0 | | 52.5 | 4 | 48 | 10 00 30 |
| 10 01 10 | =0035+413 | 04 41 59 | 48.7 | 279.3 | 4.0 | | 52.5 | 40 | 49 | 10 00 31 |
| 10 01 30 | M31_MSR | 04 42 19 | 49.4 | 278.0 | 4.0 | | 52.4 | 5 | 49 | 10 01 30 |
| 10 04 10 | --- | 04 45 00 | 49.0 | 278.5 | 4.0 | | 52.4 | 160 | 51 | 10 01 31 |
| 10 04 30 | J0038+4137 | 04 45 20 | 48.2 | 279.9 | 4.1 | | 52.4 | 4 | 51 | 10 04 30 |
| 10 05 30 | =0035+413 | 04 46 20 | 48.1 | 280.1 | 4.1 | | 52.3 | 60 | 52 | 10 04 31 |
| 10 05 50 | J0038+4137 | 04 46 40 | 48.0 | 280.1 | 4.1 | | 52.3 | 14 | 52 | 10 05 50 |
| 10 06 30 | =0035+413 | 04 47 20 | 47.9 | 280.3 | 4.1 | | 52.3 | 40 | 53 | 10 05 51 |
| 10 06 50 | M31_MSR | 04 47 40 | 48.6 | 279.0 | 4.0 | | 52.3 | 5 | 53 | 10 06 50 |
| 10 09 30 | --- | 04 50 20 | 48.2 | 279.4 | 4.1 | | 52.2 | 160 | 55 | 10 06 51 |
| 10 09 50 | J0038+4137 | 04 50 41 | 47.4 | 280.8 | 4.2 | | 52.2 | 4 | 55 | 10 09 50 |
| 10 10 30 | =0035+413 | 04 51 21 | 47.3 | 280.9 | 4.2 | | 52.1 | 40 | 56 | 10 09 51 |
| 10 10 50 | M31_MSR | 04 51 41 | 48.0 | 279.6 | 4.1 | | 52.1 | 5 | 56 | 10 10 50 |
| 10 13 30 | --- | 04 54 21 | 47.6 | 280.1 | 4.2 | | 52.0 | 160 | 59 | 10 10 51 |
| 10 13 50 | J0038+4137 | 04 54 41 | 46.8 | 281.5 | 4.3 | | 52.0 | 5 | 59 | 10 13 50 |
| 10 14 30 | =0035+413 | 04 55 21 | 46.7 | 281.6 | 4.3 | | 52.0 | 40 | 59 | 10 13 51 |
| 10 14 50 | M31_MSR | 04 55 41 | 47.4 | 280.3 | 4.2 | | 52.0 | 5 | 59 | 10 14 50 |
| 10 17 30 | --- | 04 58 22 | 47.0 | 280.8 | 4.2 | | 51.8 | 160 | 62 | 10 14 51 |
| 10 17 50 | J0038+4137 | 04 58 42 | 46.2 | 282.2 | 4.3 | | 51.8 | 5 | 62 | 10 17 50 |
| 10 18 50 | =0035+413 | 04 59 42 | 46.1 | 282.3 | 4.3 | | 51.8 | 60 | 63 | 10 17 51 |
| 10 19 10 | J0038+4137 | 05 00 02 | 46.0 | 282.4 | 4.3 | | 51.8 | 14 | 63 | 10 19 10 |
| 10 19 50 | =0035+413 | 05 00 42 | 45.9 | 282.5 | 4.4 | | 51.7 | 40 | 63 | 10 19 11 |
| 10 20 10 | M31_MSR | 05 01 02 | 46.6 | 281.2 | 4.3 | | 51.7 | 5 | 63 | 10 20 10 |
| 10 22 50 | --- | 05 03 43 | 46.2 | 281.7 | 4.3 | | 51.6 | 160 | 66 | 10 20 11 |
| 10 23 10 | J0038+4137 | 05 04 03 | 45.5 | 283.1 | 4.4 | | 51.6 | 5 | 66 | 10 23 10 |
| 10 23 50 | =0035+413 | 05 04 43 | 45.4 | 283.2 | 4.4 | | 51.5 | 40 | 67 | 10 23 11 |
| 10 24 10 | M31_MSR | 05 05 03 | 46.0 | 281.9 | 4.3 | | 51.6 | 5 | 67 | 10 24 10 |
| 10 26 50 | --- | 05 07 43 | 45.6 | 282.4 | 4.4 | | 51.4 | 160 | 69 | 10 24 11 |

Schedule for TORUN (Code Tr ) Page 5

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 10 27 10 | J0038+4137 | 05 08 03 | 44.9 | 283.7 | 4.5 | | 51.4 | 5 | 69 | 10 27 10 |
| 10 27 50 | =0035+413 | 05 08 43 | 44.8 | 283.8 | 4.5 | | 51.3 | 40 | 70 | 10 27 11 |
| 10 28 10 | M31_MSR | 05 09 04 | 45.4 | 282.6 | 4.4 | | 51.4 | 5 | 70 | 10 28 10 |
| 10 30 50 | --- | 05 11 44 | 45.0 | 283.0 | 4.4 | | 51.3 | 160 | 72 | 10 28 11 |
| 10 31 10 | J0038+4137 | 05 12 04 | 44.3 | 284.4 | 4.5 | | 51.2 | 5 | 72 | 10 31 10 |
| 10 32 10 | =0035+413 | 05 13 04 | 44.1 | 284.5 | 4.6 | | 51.1 | 60 | 73 | 10 31 11 |
| 10 32 30 | J0038+4137 | 05 13 24 | 44.1 | 284.6 | 4.6 | | 51.1 | 14 | 73 | 10 32 30 |
| 10 33 10 | =0035+413 | 05 14 04 | 44.0 | 284.7 | 4.6 | | 51.1 | 40 | 74 | 10 32 31 |
| 10 33 30 | M31_MSR | 05 14 24 | 44.6 | 283.5 | 4.5 | | 51.1 | 5 | 74 | 10 33 30 |
| 10 36 10 | --- | 05 17 05 | 44.2 | 283.9 | 4.5 | | 51.0 | 160 | 77 | 10 33 31 |
| 10 36 30 | J0038+4137 | 05 17 25 | 43.5 | 285.3 | 4.6 | | 50.9 | 5 | 77 | 10 36 30 |
| 10 37 10 | =0035+413 | 05 18 05 | 43.4 | 285.4 | 4.6 | | 50.8 | 40 | 77 | 10 36 31 |
| 10 37 30 | M31_MSR | 05 18 25 | 44.0 | 284.1 | 4.6 | | 50.9 | 5 | 77 | 10 37 30 |
| 10 40 10 | --- | 05 21 05 | 43.7 | 284.6 | 4.6 | | 50.8 | 160 | 80 | 10 37 31 |
| 10 40 30 | J0038+4137 | 05 21 26 | 42.9 | 285.9 | 4.7 | | 50.7 | 5 | 80 | 10 40 30 |
| 10 41 10 | =0035+413 | 05 22 06 | 42.8 | 286.0 | 4.7 | | 50.6 | 40 | 80 | 10 40 31 |
| 10 41 30 | M31_MSR | 05 22 26 | 43.5 | 284.8 | 4.6 | | 50.7 | 5 | 80 | 10 41 30 |
| 10 44 10 | --- | 05 25 06 | 43.1 | 285.2 | 4.7 | | 50.6 | 160 | 83 | 10 41 31 |
| 10 44 30 | J0038+4137 | 05 25 26 | 42.4 | 286.6 | 4.8 | | 50.4 | 5 | 83 | 10 44 30 |
| 10 45 30 | =0035+413 | 05 26 26 | 42.2 | 286.7 | 4.8 | | 50.4 | 60 | 84 | 10 44 31 |
| 10 45 50 | J0038+4137 | 05 26 46 | 42.2 | 286.8 | 4.8 | | 50.4 | 14 | 84 | 10 45 50 |
| 10 46 30 | =0035+413 | 05 27 27 | 42.1 | 286.9 | 4.8 | | 50.3 | 40 | 85 | 10 45 51 |
| 10 46 50 | M31_MSR | 05 27 47 | 42.7 | 285.7 | 4.7 | | 50.4 | 5 | 85 | 10 46 50 |
| 10 49 30 | --- | 05 30 27 | 42.3 | 286.1 | 4.8 | | 50.3 | 160 | 87 | 10 46 51 |
| 10 49 50 | J0038+4137 | 05 30 47 | 41.6 | 287.4 | 4.9 | | 50.1 | 5 | 87 | 10 49 50 |
| 10 50 30 | =0035+413 | 05 31 27 | 41.5 | 287.5 | 4.9 | | 50.1 | 40 | 88 | 10 49 51 |
| 10 50 50 | M31_MSR | 05 31 47 | 42.1 | 286.3 | 4.8 | | 50.2 | 5 | 88 | 10 50 50 |
| 10 53 30 | --- | 05 34 28 | 41.7 | 286.7 | 4.8 | | 50.0 | 160 | 90 | 10 50 51 |
| 10 53 50 | J0038+4137 | 05 34 48 | 41.0 | 288.1 | 4.9 | | 49.9 | 5 | 90 | 10 53 50 |
| 10 54 30 | =0035+413 | 05 35 28 | 40.9 | 288.2 | 4.9 | | 49.8 | 40 | 91 | 10 53 51 |
| 10 54 50 | M31_MSR | 05 35 48 | 41.5 | 287.0 | 4.8 | | 50.0 | 5 | 91 | 10 54 50 |
| 10 57 30 | --- | 05 38 28 | 41.1 | 287.4 | 4.9 | | 49.8 | 160 | 94 | 10 54 51 |

Schedule for TORUN (Code Tr ) Page 6

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 10 57 50 | J0038+4137 | 05 38 48 | 40.4 | 288.7 | 5.0 | | 49.6 | 5 | 94 | 10 57 50 |
| 10 58 50 | =0035+413 | 05 39 49 | 40.3 | 288.8 | 5.0 | | 49.6 | 60 | 95 | 10 57 51 |
| 10 59 10 | J0038+4137 | 05 40 09 | 40.3 | 288.9 | 5.0 | | 49.5 | 14 | 95 | 10 59 10 |
| 10 59 50 | =0035+413 | 05 40 49 | 40.2 | 289.0 | 5.0 | | 49.5 | 40 | 95 | 10 59 11 |
| 11 00 10 | M31_MSR | 05 41 09 | 40.8 | 287.8 | 4.9 | | 49.7 | 5 | 95 | 11 00 10 |
| 11 02 50 | --- | 05 43 49 | 40.4 | 288.3 | 5.0 | | 49.5 | 160 | 98 | 11 00 11 |
| 11 03 10 | J0038+4137 | 05 44 09 | 39.7 | 289.5 | 5.1 | | 49.3 | 5 | 98 | 11 03 10 |
| 11 03 50 | =0035+413 | 05 44 49 | 39.6 | 289.6 | 5.1 | | 49.2 | 40 | 98 | 11 03 11 |
| 11 04 10 | M31_MSR | 05 45 09 | 40.2 | 288.5 | 5.0 | | 49.4 | 5 | 98 | 11 04 10 |
| 11 06 50 | --- | 05 47 50 | 39.8 | 288.9 | 5.0 | | 49.2 | 160 | 101 | 11 04 11 |
| 11 07 10 | J0038+4137 | 05 48 10 | 39.1 | 290.2 | 5.1 | | 49.0 | 5 | 101 | 11 07 10 |
| 11 07 50 | =0035+413 | 05 48 50 | 39.0 | 290.3 | 5.2 | | 49.0 | 40 | 102 | 11 07 11 |
| 11 08 10 | M31_MSR | 05 49 10 | 39.6 | 289.1 | 5.1 | | 49.2 | 5 | 102 | 11 08 10 |
| 11 10 50 | --- | 05 51 51 | 39.2 | 289.5 | 5.1 | | 49.0 | 160 | 104 | 11 08 11 |
| 11 11 10 | J0038+4137 | 05 52 11 | 38.6 | 290.8 | 5.2 | | 48.7 | 5 | 104 | 11 11 10 |
| 11 12 10 | =0035+413 | 05 53 11 | 38.4 | 291.0 | 5.2 | | 48.7 | 60 | 105 | 11 11 11 |
| 11 12 30 | J0038+4137 | 05 53 31 | 38.4 | 291.0 | 5.2 | | 48.7 | 14 | 105 | 11 12 30 |
| 11 13 10 | =0035+413 | 05 54 11 | 38.3 | 291.1 | 5.2 | | 48.6 | 40 | 106 | 11 12 31 |
| 11 13 30 | M31_MSR | 05 54 31 | 38.9 | 290.0 | 5.2 | | 48.8 | 5 | 106 | 11 13 30 |
| 11 16 10 | --- | 05 57 11 | 38.5 | 290.4 | 5.2 | | 48.6 | 160 | 108 | 11 13 31 |
| 11 16 30 | J0038+4137 | 05 57 31 | 37.8 | 291.6 | 5.3 | | 48.4 | 5 | 108 | 11 16 30 |
| 11 17 10 | =0035+413 | 05 58 12 | 37.7 | 291.7 | 5.3 | | 48.3 | 40 | 109 | 11 16 31 |
| 11 17 30 | M31_MSR | 05 58 32 | 38.3 | 290.6 | 5.2 | | 48.5 | 5 | 109 | 11 17 30 |
| 11 20 10 | --- | 06 01 12 | 37.9 | 291.0 | 5.3 | | 48.4 | 160 | 112 | 11 17 31 |
| 11 20 30 | J0038+4137 | 06 01 32 | 37.2 | 292.3 | 5.4 | | 48.1 | 5 | 112 | 11 20 30 |
| 11 21 10 | =0035+413 | 06 02 12 | 37.2 | 292.4 | 5.4 | | 48.0 | 40 | 112 | 11 20 31 |
| 11 21 30 | M31_MSR | 06 02 32 | 37.7 | 291.2 | 5.3 | | 48.3 | 5 | 112 | 11 21 30 |
| 11 24 10 | --- | 06 05 13 | 37.4 | 291.6 | 5.3 | | 48.1 | 160 | 115 | 11 21 31 |
| 11 24 30 | J0038+4137 | 06 05 33 | 36.7 | 292.9 | 5.4 | | 47.8 | 5 | 115 | 11 24 30 |
| 11 25 30 | =0035+413 | 06 06 33 | 36.6 | 293.1 | 5.5 | | 47.7 | 60 | 116 | 11 24 31 |

Schedule for TORUN (Code Tr ) Page 7

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 11 25 50 | J0038+4137 | 06 06 53 | 36.5 | 293.1 | 5.5 | | 47.7 | 14 | 116 | 11 25 50 |
| 11 26 30 | =0035+413 | 06 07 33 | 36.4 | 293.2 | 5.5 | | 47.7 | 40 | 116 | 11 25 51 |
| 11 26 50 | M31_MSR | 06 07 53 | 37.0 | 292.1 | 5.4 | | 47.9 | 5 | 116 | 11 26 50 |
| 11 29 30 | --- | 06 10 34 | 36.6 | 292.5 | 5.4 | | 47.7 | 160 | 119 | 11 26 51 |
| 11 29 50 | J0038+4137 | 06 10 54 | 36.0 | 293.7 | 5.5 | | 47.4 | 5 | 119 | 11 29 50 |
| 11 30 30 | =0035+413 | 06 11 34 | 35.9 | 293.8 | 5.5 | | 47.4 | 40 | 120 | 11 29 51 |
| 11 30 50 | M31_MSR | 06 11 54 | 36.4 | 292.7 | 5.4 | | 47.6 | 5 | 120 | 11 30 50 |
| 11 33 30 | --- | 06 14 34 | 36.1 | 293.1 | 5.5 | | 47.4 | 160 | 122 | 11 30 51 |
| 11 33 50 | J0038+4137 | 06 14 54 | 35.4 | 294.4 | 5.6 | | 47.1 | 5 | 122 | 11 33 50 |
| 11 34 30 | =0035+413 | 06 15 34 | 35.3 | 294.5 | 5.6 | | 47.1 | 40 | 123 | 11 33 51 |
| 11 34 50 | M31_MSR | 06 15 54 | 35.9 | 293.3 | 5.5 | | 47.3 | 5 | 123 | 11 34 50 |
| 11 37 30 | --- | 06 18 35 | 35.5 | 293.7 | 5.6 | | 47.1 | 160 | 125 | 11 34 51 |
| 11 37 50 | J0038+4137 | 06 18 55 | 34.9 | 295.0 | 5.7 | | 46.8 | 5 | 125 | 11 37 50 |
| 11 38 50 | =0035+413 | 06 19 55 | 34.7 | 295.1 | 5.7 | | 46.7 | 60 | 126 | 11 37 51 |
| 11 39 10 | J0038+4137 | 06 20 15 | 34.7 | 295.2 | 5.7 | | 46.7 | 14 | 126 | 11 39 10 |
| 11 39 50 | =0035+413 | 06 20 55 | 34.6 | 295.3 | 5.7 | | 46.6 | 40 | 127 | 11 39 11 |
| 11 40 10 | M31_MSR | 06 21 15 | 35.1 | 294.2 | 5.6 | | 46.9 | 5 | 127 | 11 40 10 |
| 11 42 50 | --- | 06 23 56 | 34.8 | 294.6 | 5.6 | | 46.7 | 160 | 129 | 11 40 11 |
| 11 43 10 | J0038+4137 | 06 24 16 | 34.1 | 295.8 | 5.8 | | 46.4 | 5 | 129 | 11 43 10 |
| 11 43 50 | =0035+413 | 06 24 56 | 34.0 | 295.9 | 5.8 | | 46.3 | 40 | 130 | 11 43 11 |
| 11 44 10 | M31_MSR | 06 25 16 | 34.6 | 294.8 | 5.7 | | 46.6 | 5 | 130 | 11 44 10 |
| 11 46 50 | --- | 06 27 56 | 34.2 | 295.2 | 5.7 | | 46.4 | 160 | 133 | 11 44 11 |
| 11 47 10 | J0038+4137 | 06 28 16 | 33.6 | 296.4 | 5.8 | | 46.1 | 5 | 133 | 11 47 10 |
| 11 47 50 | =0035+413 | 06 28 57 | 33.5 | 296.5 | 5.8 | | 46.0 | 40 | 133 | 11 47 11 |
| 11 48 10 | M31_MSR | 06 29 17 | 34.1 | 295.4 | 5.7 | | 46.3 | 5 | 133 | 11 48 10 |
| 11 50 50 | --- | 06 31 57 | 33.7 | 295.8 | 5.8 | | 46.1 | 160 | 136 | 11 48 11 |
| 11 51 10 | J0038+4137 | 06 32 17 | 33.1 | 297.1 | 5.9 | | 45.7 | 5 | 136 | 11 51 10 |
| 11 52 10 | =0035+413 | 06 33 17 | 32.9 | 297.2 | 5.9 | | 45.7 | 60 | 137 | 11 51 11 |
| 11 52 30 | J0038+4137 | 06 33 37 | 32.9 | 297.3 | 5.9 | | 45.6 | 14 | 137 | 11 52 30 |
| 11 53 10 | =0035+413 | 06 34 17 | 32.8 | 297.4 | 5.9 | | 45.6 | 40 | 137 | 11 52 31 |

Schedule for TORUN (Code Tr ) Page 8

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 11 54 50 | 3C84 | 06 35 58 | 55.7 | 270.4 | 3.3 | | 53.4 | 0 | 137 | 11 54 50 |
| 11 56 20 | --- | 06 37 28 | 55.5 | 270.7 | 3.3 | | 53.4 | 90 | 139 | 11 54 51 |
| 11 56 30 | 3C84 | 06 37 38 | 55.5 | 270.8 | 3.3 | | 53.4 | 4 | 139 | 11 56 30 |
| 12 00 30 | --- | 06 41 39 | 54.9 | 271.5 | 3.3 | | 53.3 | 240 | 143 | 11 56 31 |
| 12 02 10 | J0038+4137 | 06 43 19 | 31.6 | 298.8 | 6.1 | | 44.8 | -1 | 143 | 12 02 10 |
| 12 03 40 | =0035+413 | 06 44 49 | 31.4 | 299.0 | 6.1 | | 44.7 | 89 | 144 | 12 02 11 |
| 12 04 00 | J0038+4137 | 06 45 09 | 31.3 | 299.1 | 6.1 | | 44.7 | 14 | 144 | 12 04 00 |
| 12 05 00 | =0035+413 | 06 46 09 | 31.2 | 299.2 | 6.1 | | 44.6 | 60 | 145 | 12 04 01 |
| 12 05 20 | M31_MSR | 06 46 29 | 31.7 | 298.1 | 6.0 | | 44.9 | 5 | 145 | 12 05 20 |
| 12 08 00 | --- | 06 49 10 | 31.4 | 298.5 | 6.1 | | 44.7 | 160 | 148 | 12 05 21 |
| 12 08 20 | J0038+4137 | 06 49 30 | 30.8 | 299.7 | 6.2 | | 44.3 | 5 | 148 | 12 08 20 |
| 12 09 00 | =0035+413 | 06 50 10 | 30.7 | 299.8 | 6.2 | | 44.2 | 40 | 148 | 12 08 21 |
| 12 09 20 | M31_MSR | 06 50 30 | 31.2 | 298.7 | 6.1 | | 44.6 | 5 | 148 | 12 09 20 |
| 12 12 00 | --- | 06 53 11 | 30.9 | 299.2 | 6.1 | | 44.4 | 160 | 151 | 12 09 21 |
| 12 12 20 | J0038+4137 | 06 53 31 | 30.3 | 300.4 | 6.2 | | 43.9 | 5 | 151 | 12 12 20 |
| 12 13 00 | =0035+413 | 06 54 11 | 30.2 | 300.5 | 6.2 | | 43.9 | 40 | 152 | 12 12 21 |
| 12 13 20 | M31_MSR | 06 54 31 | 30.7 | 299.4 | 6.2 | | 44.2 | 5 | 152 | 12 13 20 |
| 12 16 00 | --- | 06 57 11 | 30.3 | 299.8 | 6.2 | | 44.0 | 160 | 154 | 12 13 21 |
| 12 16 20 | J0038+4137 | 06 57 31 | 29.7 | 301.0 | 6.3 | | 43.6 | 5 | 154 | 12 16 20 |
| 12 17 20 | =0035+413 | 06 58 31 | 29.6 | 301.1 | 6.3 | | 43.5 | 60 | 155 | 12 16 21 |
| 12 17 40 | J0038+4137 | 06 58 52 | 29.6 | 301.2 | 6.3 | | 43.5 | 14 | 155 | 12 17 40 |
| 12 18 20 | =0035+413 | 06 59 32 | 29.5 | 301.3 | 6.3 | | 43.4 | 40 | 156 | 12 17 41 |
| 12 18 40 | M31_MSR | 06 59 52 | 30.0 | 300.2 | 6.2 | | 43.8 | 5 | 156 | 12 18 40 |
| 12 21 20 | --- | 07 02 32 | 29.6 | 300.6 | 6.3 | | 43.5 | 160 | 158 | 12 18 41 |
| 12 21 40 | J0038+4137 | 07 02 52 | 29.1 | 301.8 | 6.4 | | 43.1 | 5 | 158 | 12 21 40 |
| 12 22 20 | =0035+413 | 07 03 32 | 29.0 | 301.9 | 6.4 | | 43.0 | 40 | 159 | 12 21 41 |
| 12 22 40 | M31_MSR | 07 03 52 | 29.5 | 300.8 | 6.3 | | 43.4 | 5 | 159 | 12 22 40 |
| 12 25 20 | --- | 07 06 33 | 29.1 | 301.2 | 6.4 | | 43.2 | 160 | 162 | 12 22 41 |
| 12 25 40 | J0038+4137 | 07 06 53 | 28.5 | 302.4 | 6.5 | | 42.7 | 5 | 162 | 12 25 40 |
| 12 26 20 | =0035+413 | 07 07 33 | 28.5 | 302.6 | 6.5 | | 42.7 | 40 | 162 | 12 25 41 |

Schedule for TORUN (Code Tr ) Page 9

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 12 26 40 | M31_MSR | 07 07 53 | 29.0 | 301.5 | 6.4 | | 43.1 | 6 | 162 | 12 26 40 |
| 12 29 20 | --- | 07 10 33 | 28.6 | 301.9 | 6.4 | | 42.8 | 160 | 165 | 12 26 41 |
| 12 29 40 | J0038+4137 | 07 10 53 | 28.0 | 303.1 | 6.5 | | 42.4 | 5 | 165 | 12 29 40 |
| 12 30 40 | =0035+413 | 07 11 54 | 27.9 | 303.2 | 6.5 | | 42.3 | 60 | 166 | 12 29 41 |
| 12 31 00 | J0038+4137 | 07 12 14 | 27.9 | 303.3 | 6.6 | | 42.2 | 14 | 166 | 12 31 00 |
| 12 31 40 | =0035+413 | 07 12 54 | 27.8 | 303.4 | 6.6 | | 42.2 | 40 | 166 | 12 31 01 |
| 12 32 00 | M31_MSR | 07 13 14 | 28.3 | 302.3 | 6.5 | | 42.6 | 6 | 166 | 12 32 00 |
| 12 34 40 | --- | 07 15 54 | 27.9 | 302.7 | 6.5 | | 42.3 | 160 | 169 | 12 32 01 |
| 12 35 00 | J0038+4137 | 07 16 14 | 27.4 | 303.9 | 6.6 | | 41.9 | 5 | 169 | 12 35 00 |
| 12 35 40 | =0035+413 | 07 16 54 | 27.3 | 304.0 | 6.6 | | 41.8 | 40 | 170 | 12 35 01 |
| 12 36 00 | M31_MSR | 07 17 15 | 27.8 | 302.9 | 6.5 | | 42.2 | 6 | 170 | 12 36 00 |
| 12 38 40 | --- | 07 19 55 | 27.4 | 303.3 | 6.6 | | 42.0 | 160 | 172 | 12 36 01 |
| 12 39 00 | J0038+4137 | 07 20 15 | 26.9 | 304.5 | 6.7 | | 41.5 | 5 | 172 | 12 39 00 |
| 12 39 40 | =0035+413 | 07 20 55 | 26.8 | 304.6 | 6.7 | | 41.4 | 40 | 173 | 12 39 01 |
| 12 40 00 | M31_MSR | 07 21 15 | 27.3 | 303.6 | 6.6 | | 41.8 | 6 | 173 | 12 40 00 |
| 12 42 40 | --- | 07 23 56 | 26.9 | 304.0 | 6.6 | | 41.6 | 160 | 175 | 12 40 01 |
| 12 43 00 | J0038+4137 | 07 24 16 | 26.4 | 305.2 | 6.8 | | 41.1 | 5 | 175 | 12 43 00 |
| 12 44 00 | =0035+413 | 07 25 16 | 26.3 | 305.3 | 6.8 | | 41.0 | 60 | 176 | 12 43 01 |
| 12 44 20 | J0038+4137 | 07 25 36 | 26.2 | 305.4 | 6.8 | | 41.0 | 14 | 176 | 12 44 20 |
| 12 45 00 | =0035+413 | 07 26 16 | 26.1 | 305.5 | 6.8 | | 40.9 | 40 | 177 | 12 44 21 |
| 12 45 20 | M31_MSR | 07 26 36 | 26.6 | 304.4 | 6.7 | | 41.3 | 6 | 177 | 12 45 20 |
| 12 48 00 | --- | 07 29 16 | 26.3 | 304.8 | 6.7 | | 41.1 | 160 | 179 | 12 45 21 |
| 12 48 20 | J0038+4137 | 07 29 37 | 25.7 | 306.0 | 6.8 | | 40.6 | 5 | 179 | 12 48 20 |
| 12 49 00 | =0035+413 | 07 30 17 | 25.6 | 306.1 | 6.9 | | 40.5 | 40 | 180 | 12 48 21 |
| 12 49 20 | M31_MSR | 07 30 37 | 26.1 | 305.0 | 6.8 | | 41.0 | 6 | 180 | 12 49 20 |
| 12 52 00 | --- | 07 33 17 | 25.8 | 305.4 | 6.8 | | 40.7 | 160 | 183 | 12 49 21 |
| 12 52 20 | J0038+4137 | 07 33 37 | 25.2 | 306.6 | 6.9 | | 40.2 | 5 | 183 | 12 52 20 |
| 12 53 00 | =0035+413 | 07 34 17 | 25.2 | 306.7 | 6.9 | | 40.1 | 40 | 183 | 12 52 21 |
| 12 53 20 | M31_MSR | 07 34 37 | 25.6 | 305.7 | 6.8 | | 40.6 | 6 | 183 | 12 53 20 |
| 12 56 00 | --- | 07 37 18 | 25.3 | 306.1 | 6.9 | | 40.3 | 160 | 186 | 12 53 21 |

Schedule for TORUN (Code Tr ) Page 10

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Stop LST | Start EL | Stop EL | Start AZ | Stop AZ | Start HA | Stop HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | | | | | |
| 12 56 20 / 12 57 20 | J0038+4137 / =0035+413 | 07 37 38 | 07 38 38 | 24.8 | 24.6 | 307.3 | 307.4 | 7.0 | 7.0 | | 39.8 / 39.7 | 5 / 60 | 186 / 187 | 12 56 20 / 12 56 21 |
| 12 57 40 / 12 58 20 | J0038+4137 / =0035+413 | 07 38 58 | 07 39 38 | 24.6 | 24.5 | 307.5 | 307.6 | 7.0 | 7.0 | | 39.7 / 39.6 | 14 / 40 | 187 / 187 | 12 57 40 / 12 57 41 |
| 12 58 40 / 13 01 20 | M31_MSR / --- | 07 39 58 | 07 42 39 | 25.0 | 24.6 | 306.5 | 306.9 | 6.9 | 7.0 | | 40.1 / 39.8 | 6 / 160 | 187 / 190 | 12 58 40 / 12 58 41 |
| 13 01 40 / 13 02 20 | J0038+4137 / =0035+413 | 07 42 59 | 07 43 39 | 24.1 | 24.0 | 308.1 | 308.2 | 7.1 | 7.1 | | 39.2 / 39.2 | 5 / 40 | 190 / 191 | 13 01 40 / 13 01 41 |
| 13 02 40 / 13 05 20 | M31_MSR / --- | 07 43 59 | 07 46 39 | 24.5 | 24.2 | 307.1 | 307.6 | 7.0 | 7.0 | | 39.7 / 39.4 | 6 / 160 | 191 / 193 | 13 02 40 / 13 02 41 |
| 13 05 40 / 13 06 20 | J0038+4137 / =0035+413 | 07 46 59 | 07 47 39 | 23.7 | 23.6 | 308.8 | 308.9 | 7.1 | 7.1 | | 38.8 / 38.8 | 5 / 40 | 193 / 194 | 13 05 40 / 13 05 41 |
| 13 06 40 / 13 09 20 | M31_MSR / --- | 07 48 00 | 07 50 40 | 24.0 | 23.7 | 307.8 | 308.2 | 7.0 | 7.1 | | 39.3 / 39.0 | 6 / 160 | 194 / 196 | 13 06 40 / 13 06 41 |
| 13 09 40 / 13 10 40 | J0038+4137 / =0035+413 | 07 51 00 | 07 52 00 | 23.2 | 23.1 | 309.4 | 309.6 | 7.2 | 7.2 | | 38.4 / 38.3 | 5 / 60 | 196 / 197 | 13 09 40 / 13 09 41 |
| 13 11 00 / 13 11 40 | J0038+4137 / =0035+413 | 07 52 20 | 07 53 00 | 23.0 | 23.0 | 309.6 | 309.7 | 7.2 | 7.2 | | 38.3 / 38.2 | 14 / 40 | 197 / 198 | 13 11 00 / 13 11 01 |
| 13 12 00 / 13 14 40 | M31_MSR / --- | 07 53 20 | 07 56 01 | 23.4 | 23.1 | 308.6 | 309.1 | 7.1 | 7.2 | | 38.7 / 38.4 | 6 / 160 | 198 / 201 | 13 12 00 / 13 12 01 |
| 13 15 00 / 13 15 40 | J0038+4137 / =0035+413 | 07 56 21 | 07 57 01 | 22.6 | 22.5 | 310.2 | 310.4 | 7.3 | 7.3 | | 37.9 / 37.8 | 5 / 40 | 201 / 201 | 13 15 00 / 13 15 01 |
| 13 16 00 / 13 18 40 | M31_MSR / --- | 07 57 21 | 08 00 02 | 22.9 | 22.6 | 309.3 | 309.7 | 7.2 | 7.2 | | 38.3 / 38.0 | 6 / 160 | 201 / 204 | 13 16 00 / 13 16 01 |
| 13 19 00 / 13 19 40 | J0038+4137 / =0035+413 | 08 00 22 | 08 01 02 | 22.1 | 22.0 | 310.9 | 311.0 | 7.4 | 7.4 | | 37.4 / 37.4 | 5 / 40 | 204 / 204 | 13 19 00 / 13 19 01 |
| 13 20 00 / 13 22 40 | M31_MSR / --- | 08 01 22 | 08 04 02 | 22.4 | 22.1 | 309.9 | 310.3 | 7.3 | 7.3 | | 37.9 / 37.6 | 6 / 160 | 204 / 207 | 13 20 00 / 13 20 01 |
| 13 23 00 / 13 24 00 | J0038+4137 / =0035+413 | 08 04 22 | 08 05 22 | 21.7 | 21.5 | 311.5 | 311.7 | 7.4 | 7.4 | | 37.0 / 36.9 | 5 / 60 | 207 / 208 | 13 23 00 / 13 23 01 |

Schedule for TORUN (Code Tr ) Page 11

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 13 24 20 | J0038+4137 | 08 05 42 | 21.5 | 311.7 | 7.4 | | 36.9 | 14 | 208 | 13 24 20 |
| 13 25 00 | =0035+413 | 08 06 23 | 21.4 | 311.9 | 7.5 | | 36.8 | 40 | 209 | 13 24 21 |
| 13 25 20 | M31_MSR | 08 06 43 | 21.8 | 310.8 | 7.4 | | 37.3 | 6 | 209 | 13 25 20 |
| 13 28 00 | --- | 08 09 23 | 21.5 | 311.2 | 7.4 | | 37.0 | 160 | 211 | 13 25 21 |
| 13 28 20 | J0038+4137 | 08 09 43 | 21.1 | 312.4 | 7.5 | | 36.4 | 5 | 211 | 13 28 20 |
| 13 29 00 | =0035+413 | 08 10 23 | 21.0 | 312.5 | 7.5 | | 36.4 | 40 | 212 | 13 28 21 |
| 13 29 20 | M31_MSR | 08 10 43 | 21.4 | 311.4 | 7.4 | | 36.9 | 6 | 212 | 13 29 20 |
| 13 32 00 | --- | 08 13 24 | 21.1 | 311.8 | 7.5 | | 36.6 | 160 | 214 | 13 29 21 |
| 13 32 20 | J0038+4137 | 08 13 44 | 20.6 | 313.0 | 7.6 | | 36.0 | 5 | 214 | 13 32 20 |
| 13 33 00 | =0035+413 | 08 14 24 | 20.5 | 313.1 | 7.6 | | 35.9 | 40 | 215 | 13 32 21 |
| 13 33 20 | M31_MSR | 08 14 44 | 20.9 | 312.1 | 7.5 | | 36.5 | 6 | 215 | 13 33 20 |
| 13 36 00 | --- | 08 17 24 | 20.6 | 312.5 | 7.5 | | 36.2 | 160 | 218 | 13 33 21 |
| 13 36 20 | J0038+4137 | 08 17 44 | 20.2 | 313.7 | 7.6 | | 35.6 | 5 | 218 | 13 36 20 |
| 13 37 20 | =0035+413 | 08 18 45 | 20.1 | 313.8 | 7.7 | | 35.4 | 60 | 219 | 13 36 21 |
| 13 37 40 | J0038+4137 | 08 19 05 | 20.0 | 313.9 | 7.7 | | 35.4 | 14 | 219 | 13 37 40 |
| 13 38 20 | =0035+413 | 08 19 45 | 20.0 | 314.0 | 7.7 | | 35.3 | 40 | 219 | 13 37 41 |
| 13 38 40 | M31_MSR | 08 20 05 | 20.3 | 312.9 | 7.6 | | 35.9 | 6 | 219 | 13 38 40 |
| 13 41 20 | --- | 08 22 45 | 20.0 | 313.4 | 7.6 | | 35.6 | 160 | 222 | 13 38 41 |
| 13 41 40 | J0038+4137 | 08 23 05 | 19.6 | 314.6 | 7.7 | | 35.0 | 5 | 222 | 13 41 40 |
| 13 42 20 | =0035+413 | 08 23 45 | 19.5 | 314.7 | 7.7 | | 34.9 | 40 | 222 | 13 41 41 |
| 13 42 40 | M31_MSR | 08 24 05 | 19.9 | 313.6 | 7.6 | | 35.4 | 6 | 222 | 13 42 40 |
| 13 45 20 | --- | 08 26 46 | 19.6 | 314.0 | 7.7 | | 35.2 | 160 | 225 | 13 42 41 |
| 13 45 40 | J0038+4137 | 08 27 06 | 19.2 | 315.2 | 7.8 | | 34.5 | 5 | 225 | 13 45 40 |
| 13 46 20 | =0035+413 | 08 27 46 | 19.1 | 315.3 | 7.8 | | 34.4 | 40 | 226 | 13 45 41 |
| 13 46 40 | M31_MSR | 08 28 06 | 19.5 | 314.2 | 7.7 | | 35.0 | 6 | 226 | 13 46 40 |
| 13 49 20 | --- | 08 30 47 | 19.2 | 314.7 | 7.8 | | 34.7 | 160 | 228 | 13 46 41 |
| 13 49 40 | J0038+4137 | 08 31 07 | 18.8 | 315.9 | 7.9 | | 34.1 | 5 | 228 | 13 49 40 |
| 13 50 40 | =0035+413 | 08 32 07 | 18.7 | 316.0 | 7.9 | | 33.9 | 60 | 229 | 13 49 41 |
| 13 51 00 | J0038+4137 | 08 32 27 | 18.6 | 316.1 | 7.9 | | 33.9 | 14 | 229 | 13 51 00 |
| 13 51 40 | =0035+413 | 08 33 07 | 18.5 | 316.2 | 7.9 | | 33.8 | 40 | 230 | 13 51 01 |

Schedule for TORUN (Code Tr ) Page 12

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 13 52 00 | M31_MSR | 08 33 27 | 18.9 | 315.1 | 7.8 | | 34.4 | 6 | 230 | 13 52 00 |
| 13 54 40 | --- | 08 36 07 | 18.6 | 315.5 | 7.9 | | 34.1 | 160 | 232 | 13 52 01 |
| 13 55 00 | J0038+4137 | 08 36 27 | 18.2 | 316.7 | 8.0 | | 33.4 | 5 | 232 | 13 55 00 |
| 13 55 40 | =0035+413 | 08 37 08 | 18.1 | 316.8 | 8.0 | | 33.4 | 40 | 233 | 13 55 01 |
| 13 56 00 | M31_MSR | 08 37 28 | 18.5 | 315.8 | 7.9 | | 34.0 | 6 | 233 | 13 56 00 |
| 13 58 40 | --- | 08 40 08 | 18.2 | 316.2 | 7.9 | | 33.7 | 160 | 236 | 13 56 01 |
| 13 59 00 | J0038+4137 | 08 40 28 | 17.8 | 317.4 | 8.0 | | 33.0 | 5 | 236 | 13 59 00 |
| 13 59 40 | =0035+413 | 08 41 08 | 17.7 | 317.5 | 8.0 | | 32.9 | 40 | 236 | 13 59 01 |
| 14 00 00 | M31_MSR | 08 41 28 | 18.0 | 316.4 | 7.9 | | 33.5 | 6 | 236 | 14 00 00 |
| 14 02 40 | --- | 08 44 09 | 17.8 | 316.9 | 8.0 | | 33.2 | 160 | 239 | 14 00 01 |
| 14 03 00 | J0038+4137 | 08 44 29 | 17.4 | 318.1 | 8.1 | | 32.5 | 5 | 239 | 14 03 00 |
| 14 04 00 | =0035+413 | 08 45 29 | 17.3 | 318.2 | 8.1 | | 32.4 | 60 | 240 | 14 03 01 |
| 14 04 20 | J0038+4137 | 08 45 49 | 17.3 | 318.3 | 8.1 | | 32.4 | 14 | 240 | 14 04 20 |
| 14 05 00 | =0035+413 | 08 46 29 | 17.2 | 318.4 | 8.1 | | 32.3 | 40 | 240 | 14 04 21 |
| 14 05 20 | M31_MSR | 08 46 49 | 17.5 | 317.3 | 8.0 | | 32.9 | 6 | 240 | 14 05 20 |
| 14 08 00 | --- | 08 49 30 | 17.2 | 317.7 | 8.1 | | 32.6 | 160 | 243 | 14 05 21 |
| 14 08 20 | J0038+4137 | 08 49 50 | 16.9 | 318.9 | 8.2 | | 31.9 | 5 | 243 | 14 08 20 |
| 14 09 00 | =0035+413 | 08 50 30 | 16.8 | 319.0 | 8.2 | | 31.8 | 40 | 244 | 14 08 21 |
| 14 09 20 | M31_MSR | 08 50 50 | 17.1 | 318.0 | 8.1 | | 32.4 | 6 | 244 | 14 09 20 |
| 14 12 00 | --- | 08 53 30 | 16.8 | 318.4 | 8.1 | | 32.1 | 160 | 246 | 14 09 21 |
| 14 12 20 | J0038+4137 | 08 53 50 | 16.5 | 319.6 | 8.2 | | 31.4 | 5 | 246 | 14 12 20 |
| 14 13 00 | =0035+413 | 08 54 30 | 16.4 | 319.7 | 8.3 | | 31.3 | 40 | 247 | 14 12 21 |
| 14 13 20 | M31_MSR | 08 54 51 | 16.7 | 318.6 | 8.2 | | 31.9 | 6 | 247 | 14 13 20 |
| 14 16 00 | --- | 08 57 31 | 16.4 | 319.1 | 8.2 | | 31.6 | 160 | 249 | 14 13 21 |
| 14 16 20 | J0038+4137 | 08 57 51 | 16.1 | 320.3 | 8.3 | | 30.9 | 5 | 249 | 14 16 20 |
| 14 17 20 | =0035+413 | 08 58 51 | 16.0 | 320.4 | 8.3 | | 30.8 | 60 | 250 | 14 16 21 |
| 14 17 40 | J0038+4137 | 08 59 11 | 15.9 | 320.5 | 8.3 | | 30.8 | 14 | 250 | 14 17 40 |
| 14 18 20 | =0035+413 | 08 59 51 | 15.9 | 320.6 | 8.3 | | 30.7 | 40 | 251 | 14 17 41 |
| 14 18 40 | M31_MSR | 09 00 11 | 16.2 | 319.5 | 8.3 | | 31.3 | 6 | 251 | 14 18 40 |
| 14 21 20 | --- | 09 02 52 | 15.9 | 320.0 | 8.3 | | 31.0 | 160 | 254 | 14 18 41 |
| 14 21 40 | J0038+4137 | 09 03 12 | 15.6 | 321.2 | 8.4 | | 30.3 | 5 | 254 | 14 21 40 |
| 14 22 20 | =0035+413 | 09 03 52 | 15.5 | 321.3 | 8.4 | | 30.2 | 40 | 254 | 14 21 41 |

Schedule for TORUN (Code Tr ) Page 13

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 14 22 40 | M31_MSR | 09 04 12 | 15.8 | 320.2 | 8.3 | | 30.8 | 6 | 254 | 14 22 40 |
| 14 25 20 | --- | 09 06 52 | 15.5 | 320.6 | 8.4 | | 30.5 | 160 | 257 | 14 22 41 |
| 14 25 40 | J0038+4137 | 09 07 13 | 15.2 | 321.8 | 8.5 | | 29.8 | 5 | 257 | 14 25 40 |
| 14 26 20 | =0035+413 | 09 07 53 | 15.1 | 321.9 | 8.5 | | 29.7 | 40 | 257 | 14 25 41 |
| 14 26 40 | M31_MSR | 09 08 13 | 15.4 | 320.9 | 8.4 | | 30.4 | 6 | 257 | 14 26 40 |
| 14 29 20 | --- | 09 10 53 | 15.1 | 321.3 | 8.4 | | 30.0 | 160 | 260 | 14 26 41 |
| 14 29 40 | J0038+4137 | 09 11 13 | 14.8 | 322.5 | 8.5 | | 29.3 | 5 | 260 | 14 29 40 |
| 14 30 40 | =0035+413 | 09 12 13 | 14.7 | 322.7 | 8.6 | | 29.2 | 60 | 261 | 14 29 41 |
| 14 31 00 | J0038+4137 | 09 12 33 | 14.7 | 322.7 | 8.6 | | 29.1 | 14 | 261 | 14 31 00 |
| 14 31 40 | =0035+413 | 09 13 14 | 14.6 | 322.8 | 8.6 | | 29.1 | 40 | 262 | 14 31 01 |
| 14 32 00 | M31_MSR | 09 13 34 | 14.9 | 321.8 | 8.5 | | 29.7 | 6 | 262 | 14 32 00 |
| 14 34 40 | --- | 09 16 14 | 14.6 | 322.2 | 8.5 | | 29.4 | 160 | 264 | 14 32 01 |
| 14 35 00 | J0038+4137 | 09 16 34 | 14.3 | 323.4 | 8.6 | | 28.6 | 5 | 264 | 14 35 00 |
| 14 35 40 | =0035+413 | 09 17 14 | 14.3 | 323.5 | 8.6 | | 28.6 | 40 | 265 | 14 35 01 |
| 14 36 00 | M31_MSR | 09 17 34 | 14.5 | 322.4 | 8.5 | | 29.2 | 6 | 265 | 14 36 00 |
| 14 38 40 | --- | 09 20 15 | 14.3 | 322.9 | 8.6 | | 28.9 | 160 | 267 | 14 36 01 |
| 14 39 00 | J0038+4137 | 09 20 35 | 14.0 | 324.1 | 8.7 | | 28.1 | 5 | 267 | 14 39 00 |
| 14 39 40 | =0035+413 | 09 21 15 | 13.9 | 324.2 | 8.7 | | 28.1 | 40 | 268 | 14 39 01 |
| 14 40 00 | M31_MSR | 09 21 35 | 14.2 | 323.1 | 8.6 | | 28.7 | 6 | 268 | 14 40 00 |
| 14 42 40 | --- | 09 24 15 | 13.9 | 323.6 | 8.7 | | 28.4 | 160 | 271 | 14 40 01 |
| 14 43 00 | J0038+4137 | 09 24 35 | 13.6 | 324.8 | 8.8 | | 27.6 | 5 | 271 | 14 43 00 |
| 14 44 00 | =0035+413 | 09 25 36 | 13.5 | 324.9 | 8.8 | | 27.5 | 60 | 271 | 14 43 01 |
| 14 44 20 | J0038+4137 | 09 25 56 | 13.5 | 325.0 | 8.8 | | 27.5 | 14 | 271 | 14 44 20 |
| 14 45 00 | =0035+413 | 09 26 36 | 13.5 | 325.1 | 8.8 | | 27.4 | 40 | 272 | 14 44 21 |
| 14 45 00 | J0038+4137 | 09 26 36 | 13.5 | 325.1 | 8.8 | | 27.4 | -5 | 272 | No stop |
| 14 46 00 | =0035+413 | 09 27 36 | 13.4 | 325.3 | 8.8 | | 27.3 | 55 | 273 | 14 45 01 |
| 14 46 20 | 3C48 | 09 27 56 | 12.0 | 310.6 | 7.8 | | 33.0 | -24 | 273 | 14 46 20 |
| 14 51 20 | --- | 09 32 57 | 11.4 | 311.5 | 7.9 | | 32.5 | 276 | 278 | 14 46 21 |
| 14 52 40 | 3C84 | 09 34 17 | 30.3 | 300.1 | 6.2 | | 43.9 | -5 | 278 | 14 52 40 |
| 14 55 30 | --- | 09 37 07 | 29.9 | 300.6 | 6.3 | | 43.7 | 165 | 281 | 14 52 41 |
| 14 55 30 | 3C84 | 09 37 07 | 29.9 | 300.6 | 6.3 | | 43.7 | -5 | 281 | No stop |
| 15 00 00 | --- | 09 41 38 | 29.3 | 301.3 | 6.3 | | 43.3 | 265 | 285 | 14 55 31 |

SETUP FILE INFORMATION:

```
   Setup group:   18         Station: TORUN            Total bit rate:   128
   Format: MARK5B            Bits per sample: 2        Sample rate: 32.000
   Number of channels:  2    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.

   1st LO=   5900.00   5900.00
   Net SB=         U         U
   IF SB =         U         U
   Pol.  =       RCP       LCP
   BBC   =         1         5
   BBC SB=         U         U
   IF    =        A1        B1

  The following frequency sets based on these setups were used.

  Frequency Set:   6  Based on FREQ, BW, and/or DOPPLER in schedule.  Used with PCAL = off
   LO sum=   6666.25  6666.25
   BBC fr=    766.25   766.25
   Bandwd=     16.00    16.00
    Matching frequency sets:   6

   Track assignments are:
    track1=   2,  4
    barrel=roll_off
```

POSITIONS OF SOURCES USED IN RECORDING SCANS

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * M31_MSR | 00 41 34.512795 | * 00 44 19.170000 | 00 45 07.308960 | 0.00 |
| | 41 03 06.21546 | * 41 19 30.60000 | 41 24 02.23527 | 0.00 |
| * J0038+4137 | 00 35 41.568818 | * 00 38 24.843586 | 00 39 12.626787 | 0.14 |
| 0035+413 | 41 20 37.14185 | * 41 37 06.00024 | 41 41 39.05440 | 0.10 |
| J0137+3309 | 01 34 49.826374 | * 01 37 41.299440 | 01 38 30.965126 | 0.52 |
| * 3C48 | 32 54 20.25881 | * 33 09 35.13299 | 33 13 47.10528 | 0.50 |
| J0319+4130 | 03 16 29.567260 | * 03 19 48.160090 | 03 20 45.093289 | 1.30 |
| * 3C84 | 41 19 51.91699 | * 41 30 42.10412 | 41 33 34.86292 | 2.72 |
| J2253+1608 | 22 51 29.519738 | * 22 53 57.747937 | 22 54 41.398317 | 0.68 |
| * 3C454.3 | 15 52 54.34810 | * 16 08 53.56093 | 16 13 29.93872 | 0.72 |

EFFECT OF SOLAR CORONA

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) |
|---|---|
| M31_MSR | 60.6 |
| J0038+4137 | 61.6 |
| 3C48 | 50.7 |
| 3C84 | 32.1 |
| 3C454.3 | 90.8 |

# n14m2tr

NETWORK MONITORING EXPERIMENT

PI: *Gabriele Surcis*

Address: JIVE Postbus 2 7990 AA Dwingeloo The Netherlands
Phone: +31-521-596508 EMAIL: surcis@jive.nl
Phone during observation: +31-521-596508

Notes: 5cm NME and 4 ftp fringe test for session 2/2014
(512 Mbps, L+R, 2-bit sampling, 8 MHz filters)

COVER LETTER:

This is the schedule for the 5cm NME and ftp fringe-test on 13 Jun 2014
involving 9 antennas: Eb Wb1 Jb2 On25 Nt Tr T6 Sh Ys Sr (Yd, Td).
The NME uses a standard setup with 128 Mbps.

The schedule consists of:
- long integrations on strong calibrators like 3C286 and 3C345 for ftp-fringe tests;
- linear polarization check using the polarized calibrator 3C286 and J1310+3220;
- D-terms check using the calibrator 3C345;
- and phase-referencing parts with a continuum source (J1329+3154 and J1640+3946) as target.

Four ftp-fringe tests are scheduled throughout the experiment:

16:09:58 (scan 2, 2 sec, 3C286)

17:11:58 (scan 22, 2 sec, 3C286)

18:04:58 (scan 60, 2 sec, 3C345)

18:57:58 (scan 98, 2 sec, 3C345)

Please make sure that the autoftp is set up correctly. Thanks!

Good luck with the session!

Gabriele

Schedule for TORUN (Code Tr ) Page 2

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| Next scan frequencies: | | 6643.49 | 6643.49 | 6643.49 | 6643.49 | 6659.49 | 6659.49 | 6659.49 | 6659.49 | |
| | | 6675.49 | 6675.49 | 6675.49 | 6675.49 | 6691.49 | 6691.49 | 6691.49 | 6691.49 | |
| Next BBC frequencies: | | 743.49 | 743.49 | 743.49 | 743.49 | 759.49 | 759.49 | 759.49 | 759.49 | |
| | | 775.49 | 775.49 | 775.49 | 775.49 | 791.49 | 791.49 | 791.49 | 791.49 | |
| Next scan bandwidths: | | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | |
| | | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | |
| 16 00 00 | 3C286 | 10 41 48 | 51.9 | 109.3 | -2.8 | | -41.1 | 0 | 0 | 16 00 00 |
| 16 05 00 | --- | 10 46 49 | 52.6 | 110.6 | -2.8 | | -40.7 | 300 | 19 | 16 00 01 |
| 16 06 00 | 3C286 | 10 47 49 | 52.7 | 110.9 | -2.7 | | -40.6 | 54 | 19 | 16 06 00 |
| 16 11 00 | --- | 10 52 50 | 53.4 | 112.3 | -2.6 | | -40.1 | 300 | 39 | 16 06 01 |
| 16 12 00 | 3C286 | 10 53 50 | 53.6 | 112.6 | -2.6 | | -40.0 | 54 | 39 | 16 12 00 |
| 16 22 00 | --- | 11 03 52 | 54.9 | 115.4 | -2.5 | | -39.0 | 600 | 77 | 16 12 01 |
| 16 23 00 | J1310+3220 | 11 04 52 | 59.3 | 120.0 | -2.1 | | -38.0 | 30 | 77 | 16 23 00 |
| 16 33 00 | =1308+326 | 11 14 53 | 60.5 | 123.3 | -1.9 | | -36.4 | 600 | 116 | 16 23 01 |
| 16 34 00 | J1310+3220 | 11 15 54 | 60.7 | 123.7 | -1.9 | | -36.2 | 53 | 116 | 16 34 00 |
| 16 44 00 | =1308+326 | 11 25 55 | 61.9 | 127.3 | -1.8 | | -34.4 | 600 | 155 | 16 34 01 |
| 16 45 00 | 3C286 | 11 26 55 | 58.0 | 122.6 | -2.1 | | -35.9 | 31 | 155 | 16 45 00 |
| 16 50 00 | --- | 11 31 56 | 58.6 | 124.2 | -2.0 | | -35.2 | 300 | 174 | 16 45 01 |
| 16 51 00 | 3C286 | 11 32 56 | 58.7 | 124.6 | -2.0 | | -35.0 | 53 | 174 | 16 51 00 |
| 16 52 00 | --- | 11 33 57 | 58.9 | 124.9 | -2.0 | | -34.8 | 60 | 178 | 16 51 01 |
| 16 52 00 | J1329+3154 | 11 33 57 | 60.1 | 123.8 | -1.9 | | -36.0 | -18 | 178 | No stop |
| 16 53 00 | =1327+321 | 11 34 57 | 60.3 | 124.1 | -1.9 | | -35.8 | 42 | 182 | 16 52 01 |
| 16 53 00 | 3C286 | 11 34 57 | 59.0 | 125.3 | -1.9 | | -34.7 | -18 | 182 | No stop |
| 16 54 00 | --- | 11 35 57 | 59.1 | 125.6 | -1.9 | | -34.5 | 42 | 186 | 16 53 01 |
| 16 54 00 | J1329+3154 | 11 35 57 | 60.4 | 124.5 | -1.9 | | -35.6 | -18 | 186 | No stop |
| 16 55 00 | =1327+321 | 11 36 57 | 60.5 | 124.8 | -1.9 | | -35.5 | 42 | 190 | 16 54 01 |
| 16 55 00 | 3C286 | 11 36 57 | 59.2 | 126.0 | -1.9 | | -34.3 | -18 | 190 | No stop |
| 16 56 00 | --- | 11 37 57 | 59.3 | 126.3 | -1.9 | | -34.1 | 42 | 194 | 16 55 01 |
| 16 56 00 | J1329+3154 | 11 37 57 | 60.6 | 125.2 | -1.9 | | -35.3 | -18 | 194 | No stop |
| 16 57 00 | =1327+321 | 11 38 57 | 60.8 | 125.5 | -1.9 | | -35.1 | 42 | 197 | 16 56 01 |
| 16 57 00 | 3C286 | 11 38 57 | 59.5 | 126.7 | -1.9 | | -34.0 | -18 | 197 | No stop |
| 16 58 00 | --- | 11 39 58 | 59.6 | 127.0 | -1.9 | | -33.8 | 42 | 201 | 16 57 01 |

Schedule for TORUN (Code Tr ) Page 3

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 16 58 00 | J1329+3154 | 11 39 58 | 60.9 | 125.9 | -1.8 | | -34.9 | -18 | 201 | No stop |
| 16 59 00 | =1327+321 | 11 40 58 | 61.0 | 126.2 | -1.8 | | -34.8 | 42 | 205 | 16 58 01 |
| 16 59 00 | 3C286 | 11 40 58 | 59.7 | 127.4 | -1.8 | | -33.6 | -18 | 205 | No stop |
| 17 00 00 | --- | 11 41 58 | 59.8 | 127.7 | -1.8 | | -33.4 | 42 | 209 | 16 59 01 |
| 17 00 00 | J1329+3154 | 11 41 58 | 61.1 | 126.6 | -1.8 | | -34.6 | -18 | 209 | No stop |
| 17 01 00 | =1327+321 | 11 42 58 | 61.2 | 127.0 | -1.8 | | -34.4 | 42 | 213 | 17 00 01 |
| 17 01 00 | 3C286 | 11 42 58 | 59.9 | 128.1 | -1.8 | | -33.2 | -18 | 213 | No stop |
| 17 02 00 | --- | 11 43 58 | 60.1 | 128.4 | -1.8 | | -33.1 | 42 | 217 | 17 01 01 |
| 17 02 00 | J1329+3154 | 11 43 58 | 61.4 | 127.3 | -1.8 | | -34.2 | -18 | 217 | No stop |
| 17 03 00 | =1327+321 | 11 44 58 | 61.5 | 127.7 | -1.8 | | -34.0 | 42 | 221 | 17 02 01 |
| 17 04 00 | 3C286 | 11 45 59 | 60.3 | 129.2 | -1.8 | | -32.7 | 42 | 221 | 17 04 00 |
| 17 05 00 | --- | 11 46 59 | 60.4 | 129.5 | -1.7 | | -32.5 | 60 | 225 | 17 04 01 |
| 17 05 00 | J1329+3154 | 11 46 59 | 61.7 | 128.4 | -1.7 | | -33.6 | -18 | 225 | No stop |
| 17 06 00 | =1327+321 | 11 47 59 | 61.8 | 128.8 | -1.7 | | -33.4 | 42 | 228 | 17 05 01 |
| 17 06 00 | 3C286 | 11 47 59 | 60.5 | 129.9 | -1.7 | | -32.3 | -18 | 228 | No stop |
| 17 07 00 | --- | 11 48 59 | 60.6 | 130.3 | -1.7 | | -32.1 | 42 | 232 | 17 06 01 |
| 17 08 00 | 3C286 | 11 49 59 | 60.8 | 130.7 | -1.7 | | -31.9 | 53 | 232 | 17 08 00 |
| 17 13 00 | --- | 11 55 00 | 61.3 | 132.6 | -1.6 | | -30.9 | 300 | 252 | 17 08 01 |
| 17 17 00 | 3C345 | 11 59 01 | 41.4 | 75.7 | -4.7 | | -49.2 | 111 | 252 | 17 17 00 |
| 17 18 00 | --- | 12 00 01 | 41.5 | 75.9 | -4.7 | | -49.3 | 60 | 255 | 17 17 01 |
| 17 18 00 | J1640+3946 | 12 00 01 | 41.9 | 76.3 | -4.7 | | -49.4 | -12 | 255 | No stop |
| 17 19 00 | =1638+398 | 12 01 01 | 42.0 | 76.5 | -4.7 | | -49.4 | 48 | 259 | 17 18 01 |
| 17 19 00 | 3C345 | 12 01 01 | 41.7 | 76.0 | -4.7 | | -49.3 | -12 | 259 | No stop |
| 17 20 00 | --- | 12 02 01 | 41.8 | 76.2 | -4.7 | | -49.4 | 48 | 263 | 17 19 01 |
| 17 20 00 | J1640+3946 | 12 02 01 | 42.2 | 76.6 | -4.6 | | -49.5 | -12 | 263 | No stop |
| 17 21 00 | =1638+398 | 12 03 01 | 42.3 | 76.8 | -4.6 | | -49.5 | 48 | 267 | 17 20 01 |
| 17 21 00 | 3C345 | 12 03 01 | 42.0 | 76.4 | -4.7 | | -49.4 | -12 | 267 | No stop |
| 17 22 00 | --- | 12 04 01 | 42.1 | 76.5 | -4.7 | | -49.5 | 48 | 271 | 17 21 01 |
| 17 22 00 | J1640+3946 | 12 04 01 | 42.5 | 77.0 | -4.6 | | -49.6 | -12 | 271 | No stop |
| 17 23 00 | =1638+398 | 12 05 02 | 42.6 | 77.2 | -4.6 | | -49.6 | 48 | 275 | 17 22 01 |

Schedule for TORUN (Code Tr ) Page 4

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 17 23 00 | 3C345 | 12 05 02 | 42.3 | 76.7 | -4.6 | | -49.5 | -12 | 275 | No stop |
| 17 24 00 | --- | 12 06 02 | 42.4 | 76.9 | -4.6 | | -49.6 | 48 | 279 | 17 23 01 |
| 17 24 00 | J1640+3946 | 12 06 02 | 42.7 | 77.3 | -4.6 | | -49.6 | -12 | 279 | No stop |
| 17 25 00 | =1638+398 | 12 07 02 | 42.9 | 77.5 | -4.6 | | -49.7 | 48 | 283 | 17 24 01 |
| 17 25 00 | 3C345 | 12 07 02 | 42.5 | 77.0 | -4.6 | | -49.6 | -12 | 283 | No stop |
| 17 26 00 | --- | 12 08 02 | 42.7 | 77.2 | -4.6 | | -49.6 | 48 | 286 | 17 25 01 |
| 17 26 00 | J1640+3946 | 12 08 02 | 43.0 | 77.7 | -4.5 | | -49.7 | -12 | 286 | No stop |
| 17 27 00 | =1638+398 | 12 09 02 | 43.2 | 77.8 | -4.5 | | -49.8 | 48 | 290 | 17 26 01 |
| 17 27 00 | 3C345 | 12 09 02 | 42.8 | 77.4 | -4.6 | | -49.7 | -12 | 290 | No stop |
| 17 28 00 | --- | 12 10 02 | 43.0 | 77.5 | -4.6 | | -49.7 | 48 | 294 | 17 27 01 |
| 17 28 00 | J1640+3946 | 12 10 02 | 43.3 | 78.0 | -4.5 | | -49.8 | -12 | 294 | No stop |
| 17 29 00 | =1638+398 | 12 11 03 | 43.5 | 78.2 | -4.5 | | -49.9 | 48 | 298 | 17 28 01 |
| 17 30 00 | 3C345 | 12 12 03 | 43.3 | 77.9 | -4.5 | | -49.8 | 48 | 298 | 17 30 00 |
| 17 31 00 | --- | 12 13 03 | 43.4 | 78.1 | -4.5 | | -49.9 | 60 | 302 | 17 30 01 |
| 17 31 00 | J1640+3946 | 12 13 03 | 43.8 | 78.5 | -4.5 | | -49.9 | -12 | 302 | No stop |
| 17 32 00 | =1638+398 | 12 14 03 | 43.9 | 78.7 | -4.4 | | -50.0 | 48 | 306 | 17 31 01 |
| 17 32 00 | 3C345 | 12 14 03 | 43.6 | 78.2 | -4.5 | | -49.9 | -12 | 306 | No stop |
| 17 33 00 | --- | 12 15 03 | 43.7 | 78.4 | -4.5 | | -50.0 | 48 | 310 | 17 32 01 |
| 17 33 00 | J1640+3946 | 12 15 03 | 44.1 | 78.9 | -4.4 | | -50.0 | -12 | 310 | No stop |
| 17 34 00 | =1638+398 | 12 16 03 | 44.2 | 79.0 | -4.4 | | -50.1 | 48 | 314 | 17 33 01 |
| 17 34 00 | 3C345 | 12 16 03 | 43.9 | 78.6 | -4.5 | | -50.0 | -12 | 314 | No stop |
| 17 35 00 | --- | 12 17 04 | 44.0 | 78.7 | -4.4 | | -50.0 | 48 | 317 | 17 34 01 |
| 17 35 00 | J1640+3946 | 12 17 04 | 44.4 | 79.2 | -4.4 | | -50.1 | -12 | 317 | No stop |
| 17 36 00 | =1638+398 | 12 18 04 | 44.5 | 79.4 | -4.4 | | -50.1 | 48 | 321 | 17 35 01 |
| 17 36 00 | 3C345 | 12 18 04 | 44.2 | 78.9 | -4.4 | | -50.1 | -12 | 321 | No stop |
| 17 37 00 | --- | 12 19 04 | 44.3 | 79.1 | -4.4 | | -50.1 | 48 | 325 | 17 36 01 |
| 17 37 00 | J1640+3946 | 12 19 04 | 44.7 | 79.6 | -4.4 | | -50.2 | -12 | 325 | No stop |
| 17 38 00 | =1638+398 | 12 20 04 | 44.8 | 79.7 | -4.3 | | -50.2 | 48 | 329 | 17 37 01 |
| 17 38 00 | 3C345 | 12 20 04 | 44.5 | 79.3 | -4.4 | | -50.2 | -12 | 329 | No stop |
| 17 39 00 | --- | 12 21 04 | 44.6 | 79.4 | -4.4 | | -50.2 | 48 | 333 | 17 38 01 |
| 17 39 00 | J1640+3946 | 12 21 04 | 45.0 | 79.9 | -4.3 | | -50.3 | -12 | 333 | No stop |
| 17 40 00 | =1638+398 | 12 22 04 | 45.1 | 80.1 | -4.3 | | -50.3 | 48 | 337 | 17 39 01 |

Schedule for TORUN (Code Tr ) Page 5

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 17 40 00 | 3C345 | 12 22 04 | 44.8 | 79.6 | -4.4 | | -50.2 | -12 | 337 | No stop |
| 17 41 00 | --- | 12 23 05 | 44.9 | 79.8 | -4.3 | | -50.3 | 48 | 341 | 17 40 01 |
| 17 41 00 | J1640+3946 | 12 23 05 | 45.3 | 80.3 | -4.3 | | -50.3 | -12 | 341 | No stop |
| 17 42 00 | =1638+398 | 12 24 05 | 45.4 | 80.4 | -4.3 | | -50.4 | 48 | 344 | 17 41 01 |
| 17 43 00 | 3C345 | 12 25 05 | 45.2 | 80.1 | -4.3 | | -50.3 | 48 | 344 | 17 43 00 |
| 17 44 00 | --- | 12 26 05 | 45.4 | 80.3 | -4.3 | | -50.4 | 60 | 348 | 17 43 01 |
| 17 44 00 | J1640+3946 | 12 26 05 | 45.7 | 80.8 | -4.2 | | -50.4 | -12 | 348 | No stop |
| 17 45 00 | =1638+398 | 12 27 05 | 45.8 | 81.0 | -4.2 | | -50.5 | 48 | 352 | 17 44 01 |
| 17 45 00 | 3C345 | 12 27 05 | 45.5 | 80.5 | -4.3 | | -50.4 | -12 | 352 | No stop |
| 17 46 00 | --- | 12 28 05 | 45.6 | 80.7 | -4.3 | | -50.5 | 48 | 356 | 17 45 01 |
| 17 46 00 | J1640+3946 | 12 28 05 | 46.0 | 81.1 | -4.2 | | -50.5 | -12 | 356 | No stop |
| 17 47 00 | =1638+398 | 12 29 06 | 46.1 | 81.3 | -4.2 | | -50.5 | 48 | 360 | 17 46 01 |
| 17 47 00 | 3C345 | 12 29 06 | 45.8 | 80.8 | -4.2 | | -50.5 | -12 | 360 | No stop |
| 17 48 00 | --- | 12 30 06 | 45.9 | 81.0 | -4.2 | | -50.5 | 48 | 364 | 17 47 01 |
| 17 48 00 | J1640+3946 | 12 30 06 | 46.3 | 81.5 | -4.2 | | -50.6 | -12 | 364 | No stop |
| 17 49 00 | =1638+398 | 12 31 06 | 46.4 | 81.7 | -4.2 | | -50.6 | 48 | 368 | 17 48 01 |
| 17 49 00 | 3C345 | 12 31 06 | 46.1 | 81.2 | -4.2 | | -50.6 | -12 | 368 | No stop |
| 17 50 00 | --- | 12 32 06 | 46.2 | 81.4 | -4.2 | | -50.6 | 48 | 372 | 17 49 01 |
| 17 50 00 | J1640+3946 | 12 32 06 | 46.6 | 81.8 | -4.1 | | -50.6 | -12 | 372 | No stop |
| 17 51 00 | =1638+398 | 12 33 06 | 46.7 | 82.0 | -4.1 | | -50.7 | 48 | 375 | 17 50 01 |
| 17 51 00 | 3C345 | 12 33 06 | 46.4 | 81.5 | -4.2 | | -50.6 | -12 | 375 | No stop |
| 17 52 00 | --- | 12 34 06 | 46.5 | 81.7 | -4.2 | | -50.6 | 48 | 379 | 17 51 01 |
| 17 52 00 | J1640+3946 | 12 34 06 | 46.9 | 82.2 | -4.1 | | -50.7 | -12 | 379 | No stop |
| 17 53 00 | =1638+398 | 12 35 07 | 47.0 | 82.4 | -4.1 | | -50.7 | 48 | 383 | 17 52 01 |
| 17 53 00 | 3C345 | 12 35 07 | 46.7 | 81.9 | -4.1 | | -50.7 | -12 | 383 | No stop |
| 17 54 00 | --- | 12 36 07 | 46.8 | 82.1 | -4.1 | | -50.7 | 48 | 387 | 17 53 01 |
| 17 54 00 | J1640+3946 | 12 36 07 | 47.2 | 82.6 | -4.1 | | -50.8 | -12 | 387 | No stop |
| 17 55 00 | =1638+398 | 12 37 07 | 47.3 | 82.7 | -4.1 | | -50.8 | 48 | 391 | 17 54 01 |
| 17 56 00 | 3C345 | 12 38 07 | 47.1 | 82.4 | -4.1 | | -50.8 | 48 | 391 | 17 56 00 |
| 18 01 00 | --- | 12 43 08 | 47.9 | 83.3 | -4.0 | | -50.9 | 300 | 410 | 17 56 01 |
| 18 02 00 | 3C345 | 12 44 08 | 48.0 | 83.5 | -4.0 | | -50.9 | 54 | 410 | 18 02 00 |
| 18 07 00 | --- | 12 49 09 | 48.8 | 84.4 | -3.9 | | -51.1 | 300 | 430 | 18 02 01 |

Schedule for TORUN (Code Tr ) Page 6

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 18 09 00 | 3C345 | 12 51 09 | 49.1 | 84.8 | -3.9 | | -51.1 | 114 | 430 | 18 09 00 |
| 18 13 00 | --- | 12 55 10 | 49.7 | 85.5 | -3.8 | | -51.2 | 240 | 445 | 18 09 01 |
| 18 15 00 | 3C345 | 12 57 10 | 50.0 | 85.9 | -3.8 | | -51.2 | 114 | 445 | 18 15 00 |
| 18 16 00 | --- | 12 58 10 | 50.1 | 86.1 | -3.8 | | -51.2 | 60 | 449 | 18 15 01 |
| 18 16 00 | J1640+3946 | 12 58 10 | 50.5 | 86.6 | -3.7 | | -51.2 | -12 | 449 | No stop |
| 18 17 00 | =1638+398 | 12 59 11 | 50.6 | 86.8 | -3.7 | | -51.2 | 48 | 453 | 18 16 01 |
| 18 17 00 | 3C345 | 12 59 11 | 50.3 | 86.3 | -3.7 | | -51.2 | -12 | 453 | No stop |
| 18 18 00 | --- | 13 00 11 | 50.4 | 86.5 | -3.7 | | -51.3 | 48 | 457 | 18 17 01 |
| 18 18 00 | J1640+3946 | 13 00 11 | 50.8 | 87.0 | -3.7 | | -51.3 | -12 | 457 | No stop |
| 18 19 00 | =1638+398 | 13 01 11 | 50.9 | 87.2 | -3.7 | | -51.3 | 48 | 461 | 18 18 01 |
| 18 19 00 | 3C345 | 13 01 11 | 50.6 | 86.7 | -3.7 | | -51.3 | -12 | 461 | No stop |
| 18 20 00 | --- | 13 02 11 | 50.7 | 86.9 | -3.7 | | -51.3 | 48 | 464 | 18 19 01 |
| 18 20 00 | J1640+3946 | 13 02 11 | 51.1 | 87.4 | -3.6 | | -51.3 | -12 | 464 | No stop |
| 18 21 00 | =1638+398 | 13 03 11 | 51.2 | 87.6 | -3.6 | | -51.3 | 48 | 468 | 18 20 01 |
| 18 21 00 | 3C345 | 13 03 11 | 50.9 | 87.0 | -3.7 | | -51.3 | -12 | 468 | No stop |
| 18 22 00 | --- | 13 04 11 | 51.0 | 87.2 | -3.7 | | -51.3 | 48 | 472 | 18 21 01 |
| 18 22 00 | J1640+3946 | 13 04 11 | 51.4 | 87.8 | -3.6 | | -51.3 | -12 | 472 | No stop |
| 18 23 00 | =1638+398 | 13 05 12 | 51.5 | 87.9 | -3.6 | | -51.3 | 48 | 476 | 18 22 01 |
| 18 23 00 | 3C345 | 13 05 12 | 51.2 | 87.4 | -3.6 | | -51.3 | -12 | 476 | No stop |
| 18 24 00 | --- | 13 06 12 | 51.3 | 87.6 | -3.6 | | -51.3 | 48 | 480 | 18 23 01 |
| 18 24 00 | J1640+3946 | 13 06 12 | 51.7 | 88.1 | -3.6 | | -51.3 | -12 | 480 | No stop |
| 18 25 00 | =1638+398 | 13 07 12 | 51.8 | 88.3 | -3.6 | | -51.3 | 48 | 484 | 18 24 01 |
| 18 25 00 | 3C345 | 13 07 12 | 51.5 | 87.8 | -3.6 | | -51.3 | -12 | 484 | No stop |
| 18 26 00 | --- | 13 08 12 | 51.6 | 88.0 | -3.6 | | -51.3 | 48 | 488 | 18 25 01 |
| 18 26 00 | J1640+3946 | 13 08 12 | 52.0 | 88.5 | -3.5 | | -51.3 | -12 | 488 | No stop |
| 18 27 00 | =1638+398 | 13 09 12 | 52.1 | 88.7 | -3.5 | | -51.3 | 48 | 492 | 18 26 01 |
| 18 28 00 | 3C345 | 13 10 12 | 51.9 | 88.4 | -3.6 | | -51.4 | 48 | 492 | 18 28 00 |
| 18 29 00 | --- | 13 11 13 | 52.1 | 88.6 | -3.5 | | -51.4 | 60 | 495 | 18 28 01 |
| 18 29 00 | J1640+3946 | 13 11 13 | 52.4 | 89.1 | -3.5 | | -51.4 | -12 | 495 | No stop |
| 18 30 00 | =1638+398 | 13 12 13 | 52.6 | 89.3 | -3.5 | | -51.4 | 48 | 499 | 18 29 01 |
| 18 30 00 | 3C345 | 13 12 13 | 52.2 | 88.8 | -3.5 | | -51.4 | -12 | 499 | No stop |
| 18 31 00 | --- | 13 13 13 | 52.4 | 89.0 | -3.5 | | -51.4 | 48 | 503 | 18 30 01 |

Schedule for TORUN (Code Tr ) Page 7

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 18 31 00 | J1640+3946 | 13 13 13 | 52.7 | 89.5 | -3.5 | | -51.4 | -12 | 503 | No stop |
| 18 32 00 | =1638+398 | 13 14 13 | 52.9 | 89.7 | -3.4 | | -51.4 | 48 | 507 | 18 31 01 |
| 18 32 00 | 3C345 | 13 14 13 | 52.5 | 89.2 | -3.5 | | -51.4 | -12 | 507 | No stop |
| 18 33 00 | --- | 13 15 13 | 52.7 | 89.4 | -3.5 | | -51.4 | 48 | 511 | 18 32 01 |
| 18 33 00 | J1640+3946 | 13 15 13 | 53.0 | 89.9 | -3.4 | | -51.4 | -12 | 511 | No stop |
| 18 34 00 | =1638+398 | 13 16 13 | 53.2 | 90.1 | -3.4 | | -51.4 | 48 | 515 | 18 33 01 |
| 18 34 00 | 3C345 | 13 16 13 | 52.8 | 89.6 | -3.5 | | -51.4 | -12 | 515 | No stop |
| 18 35 00 | --- | 13 17 13 | 53.0 | 89.8 | -3.4 | | -51.4 | 48 | 519 | 18 34 01 |
| 18 35 00 | J1640+3946 | 13 17 13 | 53.3 | 90.3 | -3.4 | | -51.4 | -12 | 519 | No stop |
| 18 36 00 | =1638+398 | 13 18 14 | 53.5 | 90.5 | -3.4 | | -51.4 | 48 | 523 | 18 35 01 |
| 18 36 00 | 3C345 | 13 18 14 | 53.1 | 90.0 | -3.4 | | -51.4 | -12 | 523 | No stop |
| 18 37 00 | --- | 13 19 14 | 53.3 | 90.2 | -3.4 | | -51.4 | 48 | 526 | 18 36 01 |
| 18 37 00 | J1640+3946 | 13 19 14 | 53.6 | 90.7 | -3.4 | | -51.4 | -12 | 526 | No stop |
| 18 38 00 | =1638+398 | 13 20 14 | 53.8 | 90.9 | -3.3 | | -51.4 | 48 | 530 | 18 37 01 |
| 18 38 00 | 3C345 | 13 20 14 | 53.4 | 90.4 | -3.4 | | -51.4 | -12 | 530 | No stop |
| 18 39 00 | --- | 13 21 14 | 53.6 | 90.6 | -3.4 | | -51.4 | 48 | 534 | 18 38 01 |
| 18 39 00 | J1640+3946 | 13 21 14 | 53.9 | 91.1 | -3.3 | | -51.3 | -12 | 534 | No stop |
| 18 40 00 | =1638+398 | 13 22 14 | 54.1 | 91.3 | -3.3 | | -51.3 | 48 | 538 | 18 39 01 |
| 18 41 00 | 3C345 | 13 23 14 | 53.9 | 91.0 | -3.3 | | -51.4 | 48 | 538 | 18 41 00 |
| 18 42 00 | --- | 13 24 15 | 54.0 | 91.2 | -3.3 | | -51.4 | 60 | 542 | 18 41 01 |
| 18 42 00 | J1640+3946 | 13 24 15 | 54.4 | 91.7 | -3.3 | | -51.3 | -12 | 542 | No stop |
| 18 43 00 | =1638+398 | 13 25 15 | 54.5 | 92.0 | -3.3 | | -51.3 | 48 | 546 | 18 42 01 |
| 18 43 00 | 3C345 | 13 25 15 | 54.2 | 91.4 | -3.3 | | -51.4 | -12 | 546 | No stop |
| 18 44 00 | --- | 13 26 15 | 54.3 | 91.6 | -3.3 | | -51.4 | 48 | 550 | 18 43 01 |
| 18 44 00 | J1640+3946 | 13 26 15 | 54.7 | 92.2 | -3.2 | | -51.3 | -12 | 550 | No stop |
| 18 45 00 | =1638+398 | 13 27 15 | 54.8 | 92.4 | -3.2 | | -51.3 | 48 | 554 | 18 44 01 |
| 18 45 00 | 3C345 | 13 27 15 | 54.5 | 91.8 | -3.3 | | -51.4 | -12 | 554 | No stop |
| 18 46 00 | --- | 13 28 15 | 54.6 | 92.0 | -3.3 | | -51.3 | 48 | 557 | 18 45 01 |
| 18 46 00 | J1640+3946 | 13 28 15 | 55.0 | 92.6 | -3.2 | | -51.3 | -12 | 557 | No stop |
| 18 47 00 | =1638+398 | 13 29 15 | 55.1 | 92.8 | -3.2 | | -51.3 | 48 | 561 | 18 46 01 |
| 18 47 00 | 3C345 | 13 29 15 | 54.8 | 92.2 | -3.2 | | -51.3 | -12 | 561 | No stop |
| 18 48 00 | --- | 13 30 16 | 54.9 | 92.4 | -3.2 | | -51.3 | 48 | 565 | 18 47 01 |

Schedule for TORUN (Code Tr ) Page 8

Network Monitoring Experiment

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| 18 48 00 | J1640+3946 | 13 30 16 | 55.3 | 93.0 | -3.2 | | -51.3 | -12 | 565 | No stop |
| 18 49 00 | =1638+398 | 13 31 16 | 55.4 | 93.2 | -3.2 | | -51.2 | 48 | 569 | 18 48 01 |
| 18 49 00 | 3C345 | 13 31 16 | 55.1 | 92.6 | -3.2 | | -51.3 | -12 | 569 | No stop |
| 18 50 00 | --- | 13 32 16 | 55.2 | 92.9 | -3.2 | | -51.3 | 48 | 573 | 18 49 01 |
| 18 50 00 | J1640+3946 | 13 32 16 | 55.6 | 93.4 | -3.1 | | -51.2 | -12 | 573 | No stop |
| 18 51 00 | =1638+398 | 13 33 16 | 55.7 | 93.6 | -3.1 | | -51.2 | 48 | 577 | 18 50 01 |
| 18 51 00 | 3C345 | 13 33 16 | 55.4 | 93.1 | -3.2 | | -51.3 | -12 | 577 | No stop |
| 18 52 00 | --- | 13 34 16 | 55.5 | 93.3 | -3.2 | | -51.3 | 48 | 581 | 18 51 01 |
| 18 52 00 | J1640+3946 | 13 34 16 | 55.9 | 93.9 | -3.1 | | -51.2 | -12 | 581 | No stop |
| 18 53 00 | =1638+398 | 13 35 16 | 56.1 | 94.1 | -3.1 | | -51.2 | 48 | 584 | 18 52 01 |
| 18 54 00 | 3C345 | 13 36 17 | 55.8 | 93.7 | -3.1 | | -51.2 | 48 | 584 | 18 54 00 |
| 19 00 00 | --- | 13 42 18 | 56.7 | 95.0 | -3.0 | | -51.1 | 360 | 608 | 18 54 01 |

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: sess214.M512
--- WARNING --- This group does not match an entry in the frequency catalog.
This might be ok because the catalog is not complete.
But be very careful to be sure that the setup is correct.

Setup group: 8 Station: TORUN Total bit rate: 512
Format: MARK5B Bits per sample: 2 Sample rate: 16.000
Number of channels: 16 DBE type: Speedup factor: 1.00

Disk used to record data.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1st LO= | 5900.00 | 5900.00 | 5900.00 | 5900.00 | 5900.00 | 5900.00 | 5900.00 | 5900.00 |
| | 5900.00 | 5900.00 | 5900.00 | 5900.00 | 5900.00 | 5900.00 | 5900.00 | 5900.00 |
| Net SB= | L | L | U | U | L | L | U | U |
| | L | L | U | U | L | L | U | U |
| Pol. = | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| BBC = | 1 | 5 | 1 | 5 | 2 | 6 | 2 | 6 |
| | 3 | 7 | 3 | 7 | 4 | 8 | 4 | 8 |
| BBC SB= | L | L | U | U | L | L | U | U |
| | L | L | U | U | L | L | U | U |
| IF = | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |
| | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |

```
 The following frequency sets based on these setups were used.

  Frequency Set:   6  Setup file default.
  LO sum=   6643.49  6643.49  6643.49  6643.49  6659.49  6659.49  6659.49  6659.49
            6675.49  6675.49  6675.49  6675.49  6691.49  6691.49  6691.49  6691.49
  BBC fr=    743.49   743.49   743.49   743.49   759.49   759.49   759.49   759.49
             775.49   775.49   775.49   775.49   791.49   791.49   791.49   791.49
  Bandwd=      8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
               8.00     8.00     8.00     8.00     8.00     8.00     8.00     8.00
   Matching frequency sets:   6

  Track assignments are:
   track1=   2,  4,  6,  8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
   barrel=roll_off


SOURCES USED IN RECORDING SCANS --   Network Monitoring Experiment
    Catalog positions marked with *.
    Precession of date coordinates is based on stop time of first scan.
    Names used in schedule marked with *.
    Short names used in VLA and SNAP files marked with +.
    Observation date used in B1950/J2000 coordinate conversion (PRECDATE):  1979.900
    No adjustments are made for rates (DRA, DDEC).
    Scan hours are for recording scans only.
    Baseline hours are only counted for scans above horizon at both ends.

  Source                        Source position (RA/Dec)                        Error
                      (B1950)             (J2000)             (Date)            (mas)

* J1310+3220        13 08 07.560132   * 13 10 28.663851     13 11 10.098008       0.12
  1308+326          32 36 40.23870    * 32 20 43.78277      32 16 16.74568        0.10

* J1329+3154        13 27 34.876201   * 13 29 52.864906     13 30 33.532375       0.12
  1327+321          32 09 38.80938    * 31 54 11.05448      31 49 52.71115        0.11

  J1331+3030        13 28 49.657778   * 13 31 08.288070     13 31 49.161044       0.20
* 3C286             30 45 58.64061    * 30 30 32.95925      30 26 14.87599        0.19

* J1640+3946        16 38 48.169686   * 16 40 29.632770     16 41 00.778884       0.13
  1638+398          39 52 30.08655    * 39 46 46.02836      39 45 17.33165        0.10

  J1642+3948        16 41 17.606228   * 16 42 58.809965     16 43 29.890065       0.77
* 3C345             39 54 10.81496    * 39 48 36.99402      39 47 11.18553        0.52


 The solar corona can cause unstable phases for sources too close to the Sun.
 SCHED provides warnings at individual scans for distances less than 10 degrees.
 The distance from the Sun to each source in this schedule is:
   Source         Sun distance (deg)
  J1310+3220          97.3
  J1329+3154         101.0
  3C286              102.0
  J1640+3946         116.1
  3C345              116.1

 Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
 that the Sun will cause amplitude reductions on the  longest VLBA baselines
 at a solar distance of 60deg F^(-0.6) where F is in GHz.
 For common VLBI bands, this is:
      1.6 GHz         45. deg                        8.4 GHz         17. deg
      2.3 GHz         36. deg                       15.0 GHz         12. deg
      5.0 GHz         23. deg                       22.0 GHz          9. deg
```

# es072itr

## 6.7GHz CH3OH maser polarization towards massive protostars. II.

PI: *G. Surcis*

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Phone: +31 (0)521-596508 EMAIL: surcis@jive.nl
Fax: +31 (0)521-596539 Phone during observation: +31 (0)521-596508

Notes: Polarization observations of 1 sources at 6.7 GHz (32 Mb/s); source = G28.83-0.25

Schedule for TORUN (Code Tr ) Page 2
6.7GHz CH3OH maser polarization towards massive protostars. II.
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Fri 13 Jun 2014 Day 164 --- | | | | | | | | | | |
| Next scan frequencies: | | 6666.05 | 6666.05 | 6666.05 | 6666.05 | | | | | |
| Next BBC frequencies: | | 766.05 | 766.05 | 766.05 | 766.05 | | | | | |
| Next scan bandwidths: | | 2.00 | 2.00 | 2.00 | 2.00 | | | | | |
| 21 30 00 | J2202+4216 | 16 12 42 | 33.8 | 62.7 | -5.8 | | -46.2 | 0 | 0 | 21 30 00 |
| 21 40 00 | =BLLAC | 16 22 44 | 35.2 | 64.3 | -5.7 | | -47.1 | 600 | 2 | 21 30 01 |
| 21 43 50 | G28.83-0.25 | 16 26 35 | 26.1 | 140.7 | -2.3 | | -22.4 | 63 | 2 | 21 43 50 |
| 21 53 50 | --- | 16 36 36 | 27.0 | 143.3 | -2.2 | | -21.1 | 600 | 5 | 21 43 51 |
| 21 54 20 | G28.83-0.25 | 16 37 06 | 27.1 | 143.4 | -2.1 | | -21.0 | 24 | 5 | 21 54 20 |
| 22 04 20 | --- | 16 47 08 | 27.9 | 146.1 | -2.0 | | -19.6 | 600 | 7 | 21 54 21 |
| 22 04 50 | G28.83-0.25 | 16 47 38 | 28.0 | 146.2 | -2.0 | | -19.6 | 24 | 7 | 22 04 50 |
| 22 14 50 | --- | 16 57 40 | 28.8 | 148.9 | -1.8 | | -18.1 | 600 | 10 | 22 04 51 |
| 22 15 20 | G28.83-0.25 | 16 58 10 | 28.8 | 149.0 | -1.8 | | -18.0 | 24 | 10 | 22 15 20 |
| 22 25 20 | --- | 17 08 11 | 29.6 | 151.8 | -1.6 | | -16.5 | 600 | 12 | 22 15 21 |
| 22 29 20 | J2202+4216 | 17 12 12 | 42.1 | 72.0 | -4.9 | | -50.6 | 65 | 12 | 22 29 20 |
| 22 39 20 | =BLLAC | 17 22 14 | 43.5 | 73.6 | -4.7 | | -51.2 | 600 | 15 | 22 29 21 |
| 22 49 00 | J1331+3030 | 17 31 55 | 41.6 | 266.9 | 4.0 | | 44.1 | 180 | 15 | 22 49 00 |
| 22 59 00 | =3C286 | 17 41 57 | 40.1 | 269.0 | 4.2 | | 44.1 | 600 | 17 | 22 49 01 |
| 23 04 50 | G28.83-0.25 | 17 47 48 | 31.9 | 162.9 | -1.0 | | -10.2 | 122 | 17 | 23 04 50 |
| 23 14 50 | --- | 17 57 49 | 32.3 | 165.9 | -0.8 | | -8.5 | 600 | 19 | 23 04 51 |
| 23 15 20 | G28.83-0.25 | 17 58 20 | 32.3 | 166.0 | -0.8 | | -8.4 | 24 | 19 | 23 15 20 |
| 23 25 20 | --- | 18 08 21 | 32.6 | 168.9 | -0.6 | | -6.6 | 600 | 22 | 23 15 21 |
| 23 25 50 | G28.83-0.25 | 18 08 51 | 32.6 | 169.1 | -0.6 | | -6.5 | 24 | 22 | 23 25 50 |
| 23 35 50 | --- | 18 18 53 | 32.9 | 172.0 | -0.4 | | -4.8 | 600 | 24 | 23 25 51 |

Schedule for TORUN (Code Tr ) Page 3

6.7GHz CH3OH maser polarization towards massive protostars. II.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 40 10 | J2202+4216 | 18 23 14 | 52.5 | 83.8 | -3.7 | | -53.9 | 68 | 24 | 23 40 10 |
| 23 50 10 | =BLLAC | 18 33 15 | 54.0 | 85.6 | -3.5 | | -54.1 | 600 | 27 | 23 40 11 |
| --- Start: Fri 13 Jun 2014 Day 164 -- Stop: Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| 23 54 40 | G28.83-0.25 | 18 37 46 | 33.1 | 177.7 | -0.1 | | -1.4 | 72 | 27 | 23 54 40 |
| 00 04 40 | --- | 18 47 48 | 33.2 | 180.6 | 0.0 | | 0.4 | 600 | 29 | 23 54 41 |
| 00 05 10 | G28.83-0.25 | 18 48 18 | 33.2 | 180.8 | 0.0 | | 0.5 | 24 | 29 | 00 05 10 |
| 00 15 10 | --- | 18 58 19 | 33.1 | 183.8 | 0.2 | | 2.3 | 600 | 31 | 00 05 11 |
| 00 15 40 | G28.83-0.25 | 18 58 49 | 33.1 | 183.9 | 0.2 | | 2.4 | 24 | 31 | 00 15 40 |
| 00 25 40 | --- | 19 08 51 | 32.9 | 186.9 | 0.4 | | 4.1 | 600 | 34 | 00 15 41 |
| 00 26 10 | G28.83-0.25 | 19 09 21 | 32.9 | 187.1 | 0.4 | | 4.2 | 24 | 34 | 00 26 10 |
| 00 34 10 | --- | 19 17 22 | 32.8 | 189.4 | 0.5 | | 5.7 | 480 | 36 | 00 26 11 |
| 00 38 50 | J2202+4216 | 19 22 03 | 61.3 | 95.5 | -2.7 | | -54.0 | 77 | 36 | 00 38 50 |
| 00 48 50 | =BLLAC | 19 32 05 | 62.8 | 97.8 | -2.5 | | -53.6 | 600 | 38 | 00 38 51 |
| 00 53 40 | G28.83-0.25 | 19 36 56 | 32.1 | 195.2 | 0.9 | | 9.1 | 81 | 38 | 00 53 40 |
| 01 03 40 | --- | 19 46 57 | 31.7 | 198.1 | 1.0 | | 10.8 | 600 | 41 | 00 53 41 |
| 01 04 10 | G28.83-0.25 | 19 47 27 | 31.7 | 198.2 | 1.0 | | 10.8 | 24 | 41 | 01 04 10 |
| 01 14 10 | --- | 19 57 29 | 31.2 | 201.1 | 1.2 | | 12.5 | 600 | 43 | 01 04 11 |
| 01 14 40 | G28.83-0.25 | 19 57 59 | 31.2 | 201.2 | 1.2 | | 12.6 | 24 | 43 | 01 14 40 |
| 01 24 40 | --- | 20 08 01 | 30.6 | 204.1 | 1.4 | | 14.2 | 600 | 45 | 01 14 41 |
| 01 25 10 | G28.83-0.25 | 20 08 31 | 30.5 | 204.2 | 1.4 | | 14.3 | 24 | 45 | 01 25 10 |
| 01 35 10 | --- | 20 18 33 | 29.9 | 207.0 | 1.5 | | 15.9 | 600 | 48 | 01 25 11 |
| 01 40 10 | J2202+4216 | 20 23 33 | 70.2 | 112.9 | -1.7 | | -48.5 | 95 | 48 | 01 40 10 |
| 01 50 10 | =BLLAC | 20 33 35 | 71.6 | 116.7 | -1.5 | | -46.5 | 600 | 50 | 01 40 11 |
| 01 55 20 | G28.83-0.25 | 20 38 46 | 28.4 | 212.5 | 1.9 | | 18.9 | 104 | 50 | 01 55 20 |
| 02 05 20 | --- | 20 48 47 | 27.6 | 215.2 | 2.1 | | 20.3 | 600 | 53 | 01 55 21 |
| 02 05 50 | G28.83-0.25 | 20 49 18 | 27.5 | 215.3 | 2.1 | | 20.4 | 24 | 53 | 02 05 50 |
| 02 15 50 | --- | 20 59 19 | 26.6 | 217.9 | 2.2 | | 21.7 | 600 | 55 | 02 05 51 |
| 02 16 20 | G28.83-0.25 | 20 59 49 | 26.6 | 218.1 | 2.2 | | 21.8 | 24 | 55 | 02 16 20 |
| 02 26 20 | --- | 21 09 51 | 25.6 | 220.6 | 2.4 | | 23.1 | 600 | 58 | 02 16 21 |
| 02 26 50 | G28.83-0.25 | 21 10 21 | 25.6 | 220.8 | 2.4 | | 23.1 | 24 | 58 | 02 26 50 |
| 02 36 50 | --- | 21 20 23 | 24.6 | 223.3 | 2.6 | | 24.4 | 600 | 60 | 02 26 51 |
| 02 42 00 | J2202+4216 | 21 25 33 | 77.5 | 145.8 | -0.6 | | -27.2 | 98 | 60 | 02 42 00 |
| 02 52 00 | =BLLAC | 21 35 35 | 78.3 | 153.9 | -0.5 | | -21.0 | 600 | 62 | 02 42 01 |

Schedule for TORUN (Code Tr ) Page 4

6.7GHz CH3OH maser polarization towards massive protostars. II.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| 02 54 50 | J2136+0041 | 21 38 26 | 37.7 | 180.3 | 0.0 | | 0.2 | 4 | 62 | 02 54 50 |
| 03 04 50 | =2134+00 | 21 48 27 | 37.6 | 183.5 | 0.2 | | 2.1 | 600 | 65 | 02 54 51 |
| 03 07 40 | G28.83-0.25 | 21 51 18 | 21.2 | 230.8 | 3.1 | | 27.8 | 61 | 65 | 03 07 40 |
| 03 17 40 | --- | 22 01 19 | 20.0 | 233.2 | 3.3 | | 28.8 | 600 | 67 | 03 07 41 |
| 03 18 10 | G28.83-0.25 | 22 01 49 | 19.9 | 233.3 | 3.3 | | 28.8 | 24 | 67 | 03 18 10 |
| 03 27 10 | --- | 22 10 51 | 18.8 | 235.4 | 3.4 | | 29.7 | 540 | 69 | 03 18 11 |
| 03 27 40 | G28.83-0.25 | 22 11 21 | 18.7 | 235.5 | 3.4 | | 29.7 | 24 | 69 | 03 27 40 |
| 03 36 40 | --- | 22 20 22 | 17.6 | 237.5 | 3.6 | | 30.5 | 540 | 72 | 03 27 41 |
| 03 41 30 | J2202+4216 | 22 25 13 | 78.6 | 201.0 | 0.4 | | 16.9 | 47 | 72 | 03 41 30 |
| 03 50 10 | =BLLAC | 22 33 55 | 78.1 | 208.5 | 0.5 | | 22.8 | 520 | 74 | 03 41 31 |
| 03 55 00 | G28.83-0.25 | 22 38 45 | 15.2 | 241.6 | 3.9 | | 32.0 | 41 | 74 | 03 55 00 |
| 04 05 00 | --- | 22 48 47 | 13.9 | 243.8 | 4.1 | | 32.7 | 600 | 76 | 03 55 01 |
| 04 05 30 | G28.83-0.25 | 22 49 17 | 13.8 | 243.9 | 4.1 | | 32.7 | 24 | 76 | 04 05 30 |
| 04 15 30 | --- | 22 59 19 | 12.5 | 246.1 | 4.2 | | 33.4 | 600 | 79 | 04 05 31 |
| 04 20 00 | J2202+4216 | 23 03 50 | 75.3 | 229.3 | 1.0 | | 38.0 | 20 | 79 | 04 20 00 |
| 04 30 00 | =BLLAC | 23 13 51 | 74.1 | 234.7 | 1.2 | | 41.5 | 600 | 81 | 04 20 01 |

SETUP FILE INFORMATION:

======== Setup file: sess214.M32
--- WARNING --- This group does not match an entry in the frequency catalog.
This might be ok because the catalog is not complete.
But be very careful to be sure that the setup is correct.

Setup group: 7 Station: TORUN Total bit rate: 32
Format: MARK5B Bits per sample: 2 Sample rate: 4.000
Number of channels: 4 DBE type: Speedup factor: 1.00

Disk used to record data.

| | | | | |
|---|---|---|---|---|
| 1st LO= | 5900.00 | 5900.00 | 5900.00 | 5900.00 |
| Net SB= | U | U | U | U |
| Pol. = | RCP | LCP | RCP | LCP |
| BBC = | 1 | 5 | 2 | 6 |
| BBC SB= | U | U | U | U |
| IF = | A1 | B1 | A1 | B1 |

The following frequency sets based on these setups were used.

Frequency Set: 5 Based on FREQ, BW, and/or DOPPLER in schedule.

| | | | | |
|---|---|---|---|---|
| LO sum= | 6666.05 | 6666.05 | 6666.05 | 6666.05 |
| BBC fr= | 766.05 | 766.05 | 766.05 | 766.05 |
| Bandwd= | 2.00 | 2.00 | 2.00 | 2.00 |

Matching frequency sets: 5

Track assignments are:
track1= 2, 4, 6, 8
barrel=roll_off

SOURCES USED IN RECORDING SCANS -- 6.7GHz CH3OH maser polarization towards massive protostars. II.
Catalog positions marked with *.
Precession of date coordinates is based on stop time of first scan.
Names used in schedule marked with *.
Short names used in VLA and SNAP files marked with +.
Observation date used in B1950/J2000 coordinate conversion (PRECDATE): 1979.900
No adjustments are made for rates (DRA, DDEC).
Scan hours are for recording scans only.
Baseline hours are only counted for scans above horizon at both ends.

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * G28.83-0.25 | 18 42 12.946058 | * 18 44 51.080000 | 18 45 38.484084 | 0.00 |
| | -03 48 57.74178 | *-03 45 48.50000 | -03 44 42.95941 | 0.00 |
| * J1331+3030 | 13 28 49.657778 | * 13 31 08.288070 | 13 31 49.159841 | 0.20 |
| 3C286 | 30 45 58.64061 | * 30 30 32.95925 | 30 26 14.89789 | 0.19 |
| * J2136+0041 | 21 34 05.207371 | * 21 36 38.586306 | 21 37 23.972116 | 0.74 |
| 2134+00 | 00 28 25.08000 | * 00 41 54.21282 | 00 45 55.56555 | 1.25 |
| * J2202+4216 | 22 00 39.362504 | * 22 02 43.291371 | 22 03 20.663168 | 0.14 |
| BLLAC | 42 02 08.59073 | * 42 16 39.97987 | 42 20 46.24563 | 0.10 |

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) |
|---|---|
| G28.83-0.25 | 153.1 |
| J1331+3030 | 101.8 |
| J2136+0041 | 115.2 |
| J2202+4216 | 89.0 |

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
that the Sun will cause amplitude reductions on the longest VLBA baselines
at a solar distance of 60deg F^(-0.6) where F is in GHz.
For common VLBI bands, this is:

| | | | |
|---|---|---|---|
| 327 MHz | 117. deg | 8.4 GHz | 17. deg |
| 610 MHz | 81. deg | 15.0 GHz | 12. deg |
| 1.6 GHz | 45. deg | 22.0 GHz | 9. deg |
| 2.3 GHz | 36. deg | 43.0 GHz | 6. deg |
| 5.0 GHz | 23. deg | | |

# gp051ctr

## Methanol in M31

PI: *Pihlstrom*

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Schedule for TORUN (Code Tr ) Page 2
Methanol in M31
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| Next scan frequencies: | | 6666.25 | 6666.25 | | | | | | | |
| Next BBC frequencies: | | 766.25 | 766.25 | | | | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | | | | | | | |
| 09 00 00 | 3C454.3 | 03 44 36 | 23.4 | 266.0 | 4.8 | | 38.6 | 0 | 0 | 09 00 00 |
| 09 03 00 | --- | 03 47 36 | 22.9 | 266.7 | 4.9 | | 38.6 | 180 | 3 | 09 00 01 |
| 09 03 20 | 3C454.3 | 03 47 56 | 22.9 | 266.7 | 4.9 | | 38.6 | 14 | 3 | 09 03 20 |
| 09 04 20 | --- | 03 48 56 | 22.7 | 266.9 | 4.9 | | 38.6 | 60 | 4 | 09 03 21 |
| 09 04 40 | 3C454.3 | 03 49 16 | 22.7 | 267.0 | 4.9 | | 38.6 | 14 | 4 | 09 04 40 |
| 09 08 40 | --- | 03 53 17 | 22.1 | 267.8 | 5.0 | | 38.7 | 240 | 8 | 09 04 41 |
| 09 09 50 | J0038+4137 | 03 54 27 | 55.8 | 270.6 | 3.3 | | 53.5 | -70 | 8 | 09 09 50 |
| 09 11 50 | =0035+413 | 03 56 28 | 55.5 | 271.0 | 3.3 | | 53.5 | 50 | 10 | 09 09 51 |
| 09 12 10 | J0038+4137 | 03 56 48 | 55.5 | 271.1 | 3.3 | | 53.5 | 14 | 10 | 09 12 10 |
| 09 13 10 | =0035+413 | 03 57 48 | 55.3 | 271.3 | 3.3 | | 53.5 | 60 | 11 | 09 12 11 |
| 09 13 30 | M31_MSR | 03 58 08 | 56.0 | 269.8 | 3.2 | | 53.2 | 4 | 11 | 09 13 30 |
| 09 16 10 | --- | 04 00 48 | 55.6 | 270.3 | 3.3 | | 53.2 | 160 | 13 | 09 13 31 |
| 09 16 30 | J0038+4137 | 04 01 08 | 54.8 | 271.9 | 3.4 | | 53.5 | 4 | 13 | 09 16 30 |
| 09 17 10 | =0035+413 | 04 01 48 | 54.7 | 272.1 | 3.4 | | 53.5 | 40 | 14 | 09 16 31 |
| 09 17 30 | M31_MSR | 04 02 08 | 55.4 | 270.6 | 3.3 | | 53.2 | 4 | 14 | 09 17 30 |
| 09 20 10 | --- | 04 04 49 | 55.0 | 271.1 | 3.3 | | 53.2 | 160 | 16 | 09 17 31 |
| 09 20 30 | J0038+4137 | 04 05 09 | 54.2 | 272.7 | 3.4 | | 53.4 | 4 | 16 | 09 20 30 |
| 09 21 10 | =0035+413 | 04 05 49 | 54.1 | 272.8 | 3.4 | | 53.4 | 40 | 17 | 09 20 31 |
| 09 21 30 | M31_MSR | 04 06 09 | 54.8 | 271.4 | 3.4 | | 53.2 | 4 | 17 | 09 21 30 |
| 09 24 10 | --- | 04 08 50 | 54.4 | 271.9 | 3.4 | | 53.1 | 160 | 20 | 09 21 31 |
| 09 24 30 | J0038+4137 | 04 09 10 | 53.6 | 273.5 | 3.5 | | 53.4 | 4 | 20 | 09 24 30 |
| 09 25 30 | =0035+413 | 04 10 10 | 53.5 | 273.6 | 3.5 | | 53.4 | 60 | 21 | 09 24 31 |

Schedule for TORUN (Code Tr ) Page 3

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| 09 25 50 | J0038+4137 | 04 10 30 | 53.4 | 273.7 | 3.5 | | 53.4 | 14 | 21 | 09 25 50 |
| 09 26 30 | =0035+413 | 04 11 10 | 53.3 | 273.8 | 3.5 | | 53.4 | 40 | 21 | 09 25 51 |
| 09 26 50 | M31_MSR | 04 11 30 | 54.0 | 272.4 | 3.4 | | 53.1 | 4 | 21 | 09 26 50 |
| 09 29 30 | --- | 04 14 10 | 53.6 | 272.9 | 3.5 | | 53.1 | 160 | 24 | 09 26 51 |
| 09 29 50 | J0038+4137 | 04 14 30 | 52.8 | 274.5 | 3.6 | | 53.3 | 4 | 24 | 09 29 50 |
| 09 30 30 | =0035+413 | 04 15 11 | 52.7 | 274.6 | 3.6 | | 53.3 | 40 | 24 | 09 29 51 |
| 09 30 50 | M31_MSR | 04 15 31 | 53.4 | 273.1 | 3.5 | | 53.1 | 4 | 24 | 09 30 50 |
| 09 33 30 | --- | 04 18 11 | 53.0 | 273.7 | 3.6 | | 53.0 | 160 | 27 | 09 30 51 |
| 09 33 50 | J0038+4137 | 04 18 31 | 52.2 | 275.2 | 3.7 | | 53.2 | 4 | 27 | 09 33 50 |
| 09 34 30 | =0035+413 | 04 19 11 | 52.1 | 275.3 | 3.7 | | 53.2 | 40 | 28 | 09 33 51 |
| 09 34 50 | M31_MSR | 04 19 31 | 52.8 | 273.9 | 3.6 | | 53.0 | 4 | 28 | 09 34 50 |
| 09 37 30 | --- | 04 22 12 | 52.4 | 274.4 | 3.6 | | 53.0 | 160 | 30 | 09 34 51 |
| 09 37 50 | J0038+4137 | 04 22 32 | 51.6 | 275.9 | 3.7 | | 53.1 | 4 | 30 | 09 37 50 |
| 09 38 50 | =0035+413 | 04 23 32 | 51.5 | 276.1 | 3.7 | | 53.1 | 60 | 31 | 09 37 51 |
| 09 39 10 | J0038+4137 | 04 23 52 | 51.4 | 276.2 | 3.7 | | 53.1 | 14 | 31 | 09 39 10 |
| 09 39 50 | =0035+413 | 04 24 32 | 51.3 | 276.3 | 3.8 | | 53.1 | 40 | 32 | 09 39 11 |
| 09 40 10 | M31_MSR | 04 24 52 | 52.0 | 274.9 | 3.7 | | 52.9 | 4 | 32 | 09 40 10 |
| 09 42 50 | --- | 04 27 33 | 51.6 | 275.4 | 3.7 | | 52.8 | 160 | 34 | 09 40 11 |
| 09 43 10 | J0038+4137 | 04 27 53 | 50.8 | 276.9 | 3.8 | | 53.0 | 4 | 34 | 09 43 10 |
| 09 43 50 | =0035+413 | 04 28 33 | 50.7 | 277.0 | 3.8 | | 53.0 | 40 | 35 | 09 43 11 |
| 09 44 10 | M31_MSR | 04 28 53 | 51.4 | 275.6 | 3.7 | | 52.8 | 4 | 35 | 09 44 10 |
| 09 46 50 | --- | 04 31 33 | 51.0 | 276.1 | 3.8 | | 52.7 | 160 | 37 | 09 44 11 |
| 09 47 10 | J0038+4137 | 04 31 53 | 50.2 | 277.6 | 3.9 | | 52.9 | 4 | 37 | 09 47 10 |
| 09 47 50 | =0035+413 | 04 32 33 | 50.1 | 277.7 | 3.9 | | 52.8 | 40 | 38 | 09 47 11 |
| 09 48 10 | M31_MSR | 04 32 53 | 50.8 | 276.3 | 3.8 | | 52.7 | 4 | 38 | 09 48 10 |
| 09 50 50 | --- | 04 35 34 | 50.4 | 276.8 | 3.8 | | 52.6 | 160 | 41 | 09 48 11 |
| 09 51 10 | J0038+4137 | 04 35 54 | 49.6 | 278.3 | 3.9 | | 52.7 | 4 | 41 | 09 51 10 |
| 09 52 10 | =0035+413 | 04 36 54 | 49.5 | 278.5 | 4.0 | | 52.7 | 60 | 42 | 09 51 11 |
| 09 52 30 | J0038+4137 | 04 37 14 | 49.4 | 278.5 | 4.0 | | 52.7 | 14 | 42 | 09 52 30 |
| 09 53 10 | =0035+413 | 04 37 54 | 49.3 | 278.6 | 4.0 | | 52.7 | 40 | 42 | 09 52 31 |
| 09 53 30 | M31_MSR | 04 38 14 | 50.0 | 277.3 | 3.9 | | 52.6 | 5 | 42 | 09 53 30 |
| 09 56 10 | --- | 04 40 55 | 49.6 | 277.8 | 3.9 | | 52.5 | 160 | 45 | 09 53 31 |

Schedule for TORUN (Code Tr ) Page 4

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| 09 56 30 | J0038+4137 | 04 41 15 | 48.8 | 279.2 | 4.0 | | 52.5 | 4 | 45 | 09 56 30 |
| 09 57 10 | =0035+413 | 04 41 55 | 48.7 | 279.3 | 4.0 | | 52.5 | 40 | 46 | 09 56 31 |
| 09 57 30 | M31_MSR | 04 42 15 | 49.4 | 278.0 | 4.0 | | 52.4 | 5 | 46 | 09 57 30 |
| 10 00 10 | --- | 04 44 55 | 49.0 | 278.5 | 4.0 | | 52.4 | 160 | 48 | 09 57 31 |
| 10 00 30 | J0038+4137 | 04 45 16 | 48.2 | 279.9 | 4.1 | | 52.4 | 4 | 48 | 10 00 30 |
| 10 01 10 | =0035+413 | 04 45 56 | 48.1 | 280.0 | 4.1 | | 52.4 | 40 | 49 | 10 00 31 |
| 10 01 30 | M31_MSR | 04 46 16 | 48.8 | 278.7 | 4.0 | | 52.3 | 5 | 49 | 10 01 30 |
| 10 04 10 | --- | 04 48 56 | 48.4 | 279.2 | 4.1 | | 52.2 | 160 | 51 | 10 01 31 |
| 10 04 30 | J0038+4137 | 04 49 16 | 47.6 | 280.6 | 4.2 | | 52.2 | 4 | 51 | 10 04 30 |
| 10 05 30 | =0035+413 | 04 50 16 | 47.5 | 280.8 | 4.2 | | 52.2 | 60 | 52 | 10 04 31 |
| 10 05 50 | J0038+4137 | 04 50 36 | 47.4 | 280.8 | 4.2 | | 52.2 | 14 | 52 | 10 05 50 |
| 10 06 30 | =0035+413 | 04 51 17 | 47.3 | 280.9 | 4.2 | | 52.1 | 40 | 53 | 10 05 51 |
| 10 06 50 | M31_MSR | 04 51 37 | 48.0 | 279.6 | 4.1 | | 52.1 | 5 | 53 | 10 06 50 |
| 10 09 30 | --- | 04 54 17 | 47.6 | 280.1 | 4.2 | | 52.0 | 160 | 55 | 10 06 51 |
| 10 09 50 | J0038+4137 | 04 54 37 | 46.8 | 281.5 | 4.3 | | 52.0 | 5 | 55 | 10 09 50 |
| 10 10 30 | =0035+413 | 04 55 17 | 46.7 | 281.6 | 4.3 | | 52.0 | 40 | 56 | 10 09 51 |
| 10 10 50 | M31_MSR | 04 55 37 | 47.4 | 280.3 | 4.2 | | 52.0 | 5 | 56 | 10 10 50 |
| 10 13 30 | --- | 04 58 18 | 47.0 | 280.8 | 4.2 | | 51.9 | 160 | 59 | 10 10 51 |
| 10 13 50 | J0038+4137 | 04 58 38 | 46.3 | 282.2 | 4.3 | | 51.8 | 5 | 59 | 10 13 50 |
| 10 14 30 | =0035+413 | 04 59 18 | 46.2 | 282.3 | 4.3 | | 51.8 | 40 | 59 | 10 13 51 |
| 10 14 50 | M31_MSR | 04 59 38 | 46.8 | 281.0 | 4.2 | | 51.8 | 5 | 59 | 10 14 50 |
| 10 17 30 | --- | 05 02 18 | 46.4 | 281.5 | 4.3 | | 51.7 | 160 | 62 | 10 14 51 |
| 10 17 50 | J0038+4137 | 05 02 38 | 45.7 | 282.8 | 4.4 | | 51.6 | 5 | 62 | 10 17 50 |
| 10 18 50 | =0035+413 | 05 03 39 | 45.5 | 283.0 | 4.4 | | 51.6 | 60 | 63 | 10 17 51 |
| 10 19 10 | J0038+4137 | 05 03 59 | 45.5 | 283.1 | 4.4 | | 51.6 | 14 | 63 | 10 19 10 |
| 10 19 50 | =0035+413 | 05 04 39 | 45.4 | 283.2 | 4.4 | | 51.5 | 40 | 63 | 10 19 11 |
| 10 20 10 | M31_MSR | 05 04 59 | 46.0 | 281.9 | 4.3 | | 51.6 | 5 | 63 | 10 20 10 |
| 10 22 50 | --- | 05 07 39 | 45.6 | 282.4 | 4.4 | | 51.4 | 160 | 66 | 10 20 11 |
| 10 23 10 | J0038+4137 | 05 07 59 | 44.9 | 283.7 | 4.5 | | 51.4 | 5 | 66 | 10 23 10 |
| 10 23 50 | =0035+413 | 05 08 39 | 44.8 | 283.8 | 4.5 | | 51.3 | 40 | 67 | 10 23 11 |
| 10 24 10 | M31_MSR | 05 08 59 | 45.4 | 282.6 | 4.4 | | 51.4 | 5 | 67 | 10 24 10 |
| 10 26 50 | --- | 05 11 40 | 45.0 | 283.0 | 4.4 | | 51.3 | 160 | 69 | 10 24 11 |

Schedule for TORUN (Code Tr ) Page 5

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| 10 27 10 | J0038+4137 | 05 12 00 | 44.3 | 284.4 | 4.5 | | 51.2 | 5 | 69 | 10 27 10 |
| 10 27 50 | =0035+413 | 05 12 40 | 44.2 | 284.5 | 4.6 | | 51.1 | 40 | 70 | 10 27 11 |
| 10 28 10 | M31_MSR | 05 13 00 | 44.8 | 283.2 | 4.5 | | 51.2 | 5 | 70 | 10 28 10 |
| 10 30 50 | --- | 05 15 41 | 44.4 | 283.7 | 4.5 | | 51.1 | 160 | 72 | 10 28 11 |
| 10 31 10 | J0038+4137 | 05 16 01 | 43.7 | 285.0 | 4.6 | | 51.0 | 5 | 72 | 10 31 10 |
| 10 32 10 | =0035+413 | 05 17 01 | 43.6 | 285.2 | 4.6 | | 50.9 | 60 | 73 | 10 31 11 |
| 10 32 30 | J0038+4137 | 05 17 21 | 43.5 | 285.2 | 4.6 | | 50.9 | 14 | 73 | 10 32 30 |
| 10 33 10 | =0035+413 | 05 18 01 | 43.4 | 285.4 | 4.6 | | 50.8 | 40 | 74 | 10 32 31 |
| 10 33 30 | M31_MSR | 05 18 21 | 44.1 | 284.1 | 4.6 | | 50.9 | 5 | 74 | 10 33 30 |
| 10 36 10 | --- | 05 21 01 | 43.7 | 284.6 | 4.6 | | 50.8 | 160 | 77 | 10 33 31 |
| 10 36 30 | J0038+4137 | 05 21 21 | 42.9 | 285.9 | 4.7 | | 50.7 | 5 | 77 | 10 36 30 |
| 10 37 10 | =0035+413 | 05 22 02 | 42.8 | 286.0 | 4.7 | | 50.6 | 40 | 77 | 10 36 31 |
| 10 37 30 | M31_MSR | 05 22 22 | 43.5 | 284.8 | 4.6 | | 50.7 | 5 | 77 | 10 37 30 |
| 10 40 10 | --- | 05 25 02 | 43.1 | 285.2 | 4.7 | | 50.6 | 160 | 80 | 10 37 31 |
| 10 40 30 | J0038+4137 | 05 25 22 | 42.4 | 286.5 | 4.8 | | 50.4 | 5 | 80 | 10 40 30 |
| 10 41 10 | =0035+413 | 05 26 02 | 42.3 | 286.6 | 4.8 | | 50.4 | 40 | 80 | 10 40 31 |
| 10 41 30 | M31_MSR | 05 26 22 | 42.9 | 285.4 | 4.7 | | 50.5 | 5 | 80 | 10 41 30 |
| 10 44 10 | --- | 05 29 03 | 42.5 | 285.9 | 4.7 | | 50.4 | 160 | 83 | 10 41 31 |
| 10 44 30 | J0038+4137 | 05 29 23 | 41.8 | 287.2 | 4.8 | | 50.2 | 5 | 83 | 10 44 30 |
| 10 45 30 | =0035+413 | 05 30 23 | 41.6 | 287.3 | 4.9 | | 50.1 | 60 | 84 | 10 44 31 |
| 10 45 50 | J0038+4137 | 05 30 43 | 41.6 | 287.4 | 4.9 | | 50.1 | 14 | 84 | 10 45 50 |
| 10 46 30 | =0035+413 | 05 31 23 | 41.5 | 287.5 | 4.9 | | 50.1 | 40 | 85 | 10 45 51 |
| 10 46 50 | M31_MSR | 05 31 43 | 42.1 | 286.3 | 4.8 | | 50.2 | 5 | 85 | 10 46 50 |
| 10 49 30 | --- | 05 34 24 | 41.7 | 286.7 | 4.8 | | 50.1 | 160 | 87 | 10 46 51 |
| 10 49 50 | J0038+4137 | 05 34 44 | 41.0 | 288.0 | 4.9 | | 49.9 | 5 | 87 | 10 49 50 |
| 10 50 30 | =0035+413 | 05 35 24 | 40.9 | 288.1 | 4.9 | | 49.8 | 40 | 88 | 10 49 51 |
| 10 50 50 | M31_MSR | 05 35 44 | 41.5 | 287.0 | 4.8 | | 50.0 | 5 | 88 | 10 50 50 |
| 10 53 30 | --- | 05 38 24 | 41.2 | 287.4 | 4.9 | | 49.8 | 160 | 90 | 10 50 51 |
| 10 53 50 | J0038+4137 | 05 38 44 | 40.5 | 288.7 | 5.0 | | 49.6 | 5 | 90 | 10 53 50 |
| 10 54 30 | =0035+413 | 05 39 24 | 40.4 | 288.8 | 5.0 | | 49.6 | 40 | 91 | 10 53 51 |
| 10 54 50 | M31_MSR | 05 39 44 | 41.0 | 287.6 | 4.9 | | 49.7 | 5 | 91 | 10 54 50 |
| 10 57 30 | --- | 05 42 25 | 40.6 | 288.0 | 5.0 | | 49.6 | 160 | 94 | 10 54 51 |

Schedule for TORUN (Code Tr ) Page 6

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| 10 57 50 | J0038+4137 | 05 42 45 | 39.9 | 289.3 | 5.1 | | 49.4 | 5 | 94 | 10 57 50 |
| 10 58 50 | =0035+413 | 05 43 45 | 39.7 | 289.5 | 5.1 | | 49.3 | 60 | 95 | 10 57 51 |
| 10 59 10 | J0038+4137 | 05 44 05 | 39.7 | 289.5 | 5.1 | | 49.3 | 14 | 95 | 10 59 10 |
| 10 59 50 | =0035+413 | 05 44 45 | 39.6 | 289.6 | 5.1 | | 49.2 | 40 | 95 | 10 59 11 |
| 11 00 10 | M31_MSR | 05 45 05 | 40.2 | 288.5 | 5.0 | | 49.4 | 5 | 95 | 11 00 10 |
| 11 02 50 | --- | 05 47 46 | 39.8 | 288.9 | 5.0 | | 49.2 | 160 | 98 | 11 00 11 |
| 11 03 10 | J0038+4137 | 05 48 06 | 39.1 | 290.2 | 5.1 | | 49.0 | 5 | 98 | 11 03 10 |
| 11 03 50 | =0035+413 | 05 48 46 | 39.0 | 290.3 | 5.2 | | 49.0 | 40 | 98 | 11 03 11 |
| 11 04 10 | M31_MSR | 05 49 06 | 39.6 | 289.1 | 5.1 | | 49.2 | 5 | 98 | 11 04 10 |
| 11 06 50 | --- | 05 51 46 | 39.3 | 289.5 | 5.1 | | 49.0 | 160 | 101 | 11 04 11 |
| 11 07 10 | J0038+4137 | 05 52 06 | 38.6 | 290.8 | 5.2 | | 48.7 | 5 | 101 | 11 07 10 |
| 11 07 50 | =0035+413 | 05 52 47 | 38.5 | 290.9 | 5.2 | | 48.7 | 40 | 102 | 11 07 11 |
| 11 08 10 | M31_MSR | 05 53 07 | 39.1 | 289.7 | 5.1 | | 48.9 | 5 | 102 | 11 08 10 |
| 11 10 50 | --- | 05 55 47 | 38.7 | 290.2 | 5.2 | | 48.7 | 160 | 104 | 11 08 11 |
| 11 11 10 | J0038+4137 | 05 56 07 | 38.0 | 291.4 | 5.3 | | 48.5 | 5 | 104 | 11 11 10 |
| 11 12 10 | =0035+413 | 05 57 07 | 37.9 | 291.6 | 5.3 | | 48.4 | 60 | 105 | 11 11 11 |
| 11 12 30 | J0038+4137 | 05 57 27 | 37.8 | 291.6 | 5.3 | | 48.4 | 14 | 105 | 11 12 30 |
| 11 13 10 | =0035+413 | 05 58 07 | 37.7 | 291.7 | 5.3 | | 48.3 | 40 | 106 | 11 12 31 |
| 11 13 30 | M31_MSR | 05 58 28 | 38.3 | 290.6 | 5.2 | | 48.5 | 5 | 106 | 11 13 30 |
| 11 16 10 | --- | 06 01 08 | 37.9 | 291.0 | 5.3 | | 48.4 | 160 | 108 | 11 13 31 |
| 11 16 30 | J0038+4137 | 06 01 28 | 37.3 | 292.3 | 5.4 | | 48.1 | 5 | 108 | 11 16 30 |
| 11 17 10 | =0035+413 | 06 02 08 | 37.2 | 292.4 | 5.4 | | 48.0 | 40 | 109 | 11 16 31 |
| 11 17 30 | M31_MSR | 06 02 28 | 37.7 | 291.2 | 5.3 | | 48.3 | 5 | 109 | 11 17 30 |
| 11 20 10 | --- | 06 05 09 | 37.4 | 291.6 | 5.3 | | 48.1 | 160 | 112 | 11 17 31 |
| 11 20 30 | J0038+4137 | 06 05 29 | 36.7 | 292.9 | 5.4 | | 47.8 | 5 | 112 | 11 20 30 |
| 11 21 10 | =0035+413 | 06 06 09 | 36.6 | 293.0 | 5.4 | | 47.8 | 40 | 112 | 11 20 31 |
| 11 21 30 | M31_MSR | 06 06 29 | 37.2 | 291.8 | 5.4 | | 48.0 | 5 | 112 | 11 21 30 |
| 11 24 10 | --- | 06 09 09 | 36.8 | 292.3 | 5.4 | | 47.8 | 160 | 115 | 11 21 31 |
| 11 24 30 | J0038+4137 | 06 09 29 | 36.1 | 293.5 | 5.5 | | 47.5 | 5 | 115 | 11 24 30 |
| 11 25 30 | =0035+413 | 06 10 29 | 36.0 | 293.7 | 5.5 | | 47.4 | 60 | 116 | 11 24 31 |

Schedule for TORUN (Code Tr ) Page 7

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | Start / Stop EL | Start / Stop AZ | Start / Stop HA | Start / Stop UP | Start / Stop ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| 11 25 50 | J0038+4137 | 06 10 50 | 36.0 | 293.7 | 5.5 | | 47.4 | 14 | 116 | 11 25 50 |
| 11 26 30 | =0035+413 | 06 11 30 | 35.9 | 293.8 | 5.5 | | 47.4 | 40 | 116 | 11 25 51 |
| 11 26 50 | M31_MSR | 06 11 50 | 36.4 | 292.7 | 5.4 | | 47.6 | 5 | 116 | 11 26 50 |
| 11 29 30 | --- | 06 14 30 | 36.1 | 293.1 | 5.5 | | 47.4 | 160 | 119 | 11 26 51 |
| 11 29 50 | J0038+4137 | 06 14 50 | 35.4 | 294.4 | 5.6 | | 47.1 | 5 | 119 | 11 29 50 |
| 11 30 30 | =0035+413 | 06 15 30 | 35.3 | 294.5 | 5.6 | | 47.1 | 40 | 120 | 11 29 51 |
| 11 30 50 | M31_MSR | 06 15 50 | 35.9 | 293.3 | 5.5 | | 47.3 | 5 | 120 | 11 30 50 |
| 11 33 30 | --- | 06 18 31 | 35.5 | 293.7 | 5.6 | | 47.1 | 160 | 122 | 11 30 51 |
| 11 33 50 | J0038+4137 | 06 18 51 | 34.9 | 295.0 | 5.7 | | 46.8 | 5 | 122 | 11 33 50 |
| 11 34 30 | =0035+413 | 06 19 31 | 34.8 | 295.1 | 5.7 | | 46.7 | 40 | 123 | 11 33 51 |
| 11 34 50 | M31_MSR | 06 19 51 | 35.3 | 293.9 | 5.6 | | 47.0 | 5 | 123 | 11 34 50 |
| 11 37 30 | --- | 06 22 31 | 35.0 | 294.4 | 5.6 | | 46.8 | 160 | 125 | 11 34 51 |
| 11 37 50 | J0038+4137 | 06 22 52 | 34.3 | 295.6 | 5.7 | | 46.5 | 5 | 125 | 11 37 50 |
| 11 38 50 | =0035+413 | 06 23 52 | 34.2 | 295.8 | 5.7 | | 46.4 | 60 | 126 | 11 37 51 |
| 11 39 10 | J0038+4137 | 06 24 12 | 34.1 | 295.8 | 5.7 | | 46.4 | 14 | 126 | 11 39 10 |
| 11 39 50 | =0035+413 | 06 24 52 | 34.1 | 295.9 | 5.8 | | 46.3 | 40 | 127 | 11 39 11 |
| 11 40 10 | M31_MSR | 06 25 12 | 34.6 | 294.8 | 5.7 | | 46.6 | 5 | 127 | 11 40 10 |
| 11 42 50 | --- | 06 27 52 | 34.2 | 295.2 | 5.7 | | 46.4 | 160 | 129 | 11 40 11 |
| 11 43 10 | J0038+4137 | 06 28 12 | 33.6 | 296.4 | 5.8 | | 46.1 | 5 | 129 | 11 43 10 |
| 11 43 50 | =0035+413 | 06 28 53 | 33.5 | 296.5 | 5.8 | | 46.0 | 40 | 130 | 11 43 11 |
| 11 44 10 | M31_MSR | 06 29 13 | 34.1 | 295.4 | 5.7 | | 46.3 | 5 | 130 | 11 44 10 |
| 11 46 50 | --- | 06 31 53 | 33.7 | 295.8 | 5.8 | | 46.1 | 160 | 133 | 11 44 11 |
| 11 47 10 | J0038+4137 | 06 32 13 | 33.1 | 297.1 | 5.9 | | 45.7 | 5 | 133 | 11 47 10 |
| 11 47 50 | =0035+413 | 06 32 53 | 33.0 | 297.2 | 5.9 | | 45.7 | 40 | 133 | 11 47 11 |
| 11 48 10 | M31_MSR | 06 33 13 | 33.5 | 296.0 | 5.8 | | 46.0 | 5 | 133 | 11 48 10 |
| 11 50 50 | --- | 06 35 54 | 33.2 | 296.5 | 5.8 | | 45.8 | 160 | 136 | 11 48 11 |
| 11 51 10 | J0038+4137 | 06 36 14 | 32.5 | 297.7 | 6.0 | | 45.4 | 5 | 136 | 11 51 10 |
| 11 52 10 | =0035+413 | 06 37 14 | 32.4 | 297.8 | 6.0 | | 45.3 | 60 | 137 | 11 51 11 |
| 11 52 30 | J0038+4137 | 06 37 34 | 32.4 | 297.9 | 6.0 | | 45.3 | 14 | 137 | 11 52 30 |
| 11 53 10 | =0035+413 | 06 38 14 | 32.3 | 298.0 | 6.0 | | 45.2 | 40 | 137 | 11 52 31 |

Schedule for TORUN (Code Tr ) Page 8

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| 11 54 50 | 3C84 | 06 39 54 | 55.1 | 271.2 | 3.3 | | 53.4 | 0 | 137 | 11 54 50 |
| 11 56 20 | --- | 06 41 25 | 54.9 | 271.5 | 3.3 | | 53.3 | 90 | 139 | 11 54 51 |
| 11 56 30 | 3C84 | 06 41 35 | 54.9 | 271.5 | 3.3 | | 53.3 | 4 | 139 | 11 56 30 |
| 12 00 30 | --- | 06 45 35 | 54.3 | 272.3 | 3.4 | | 53.3 | 240 | 143 | 11 56 31 |
| 12 02 10 | J0038+4137 | 06 47 16 | 31.1 | 299.4 | 6.1 | | 44.5 | -1 | 143 | 12 02 10 |
| 12 03 40 | =0035+413 | 06 48 46 | 30.9 | 299.6 | 6.2 | | 44.3 | 89 | 144 | 12 02 11 |
| 12 04 00 | J0038+4137 | 06 49 06 | 30.8 | 299.7 | 6.2 | | 44.3 | 14 | 144 | 12 04 00 |
| 12 05 00 | =0035+413 | 06 50 06 | 30.7 | 299.8 | 6.2 | | 44.2 | 60 | 145 | 12 04 01 |
| 12 05 20 | M31_MSR | 06 50 26 | 31.2 | 298.7 | 6.1 | | 44.6 | 5 | 145 | 12 05 20 |
| 12 08 00 | --- | 06 53 06 | 30.9 | 299.1 | 6.1 | | 44.4 | 160 | 148 | 12 05 21 |
| 12 08 20 | J0038+4137 | 06 53 27 | 30.3 | 300.4 | 6.2 | | 43.9 | 5 | 148 | 12 08 20 |
| 12 09 00 | =0035+413 | 06 54 07 | 30.2 | 300.5 | 6.2 | | 43.9 | 40 | 148 | 12 08 21 |
| 12 09 20 | M31_MSR | 06 54 27 | 30.7 | 299.4 | 6.2 | | 44.2 | 5 | 148 | 12 09 20 |
| 12 12 00 | --- | 06 57 07 | 30.3 | 299.8 | 6.2 | | 44.0 | 160 | 151 | 12 09 21 |
| 12 12 20 | J0038+4137 | 06 57 27 | 29.8 | 301.0 | 6.3 | | 43.6 | 5 | 151 | 12 12 20 |
| 12 13 00 | =0035+413 | 06 58 07 | 29.7 | 301.1 | 6.3 | | 43.5 | 40 | 152 | 12 12 21 |
| 12 13 20 | M31_MSR | 06 58 27 | 30.2 | 300.0 | 6.2 | | 43.9 | 5 | 152 | 12 13 20 |
| 12 16 00 | --- | 07 01 08 | 29.8 | 300.4 | 6.3 | | 43.7 | 160 | 154 | 12 13 21 |
| 12 16 20 | J0038+4137 | 07 01 28 | 29.2 | 301.6 | 6.4 | | 43.2 | 5 | 154 | 12 16 20 |
| 12 17 20 | =0035+413 | 07 02 28 | 29.1 | 301.8 | 6.4 | | 43.1 | 60 | 155 | 12 16 21 |
| 12 17 40 | J0038+4137 | 07 02 48 | 29.1 | 301.8 | 6.4 | | 43.1 | 14 | 155 | 12 17 40 |
| 12 18 20 | =0035+413 | 07 03 28 | 29.0 | 301.9 | 6.4 | | 43.0 | 40 | 156 | 12 17 41 |
| 12 18 40 | M31_MSR | 07 03 48 | 29.5 | 300.8 | 6.3 | | 43.4 | 5 | 156 | 12 18 40 |
| 12 21 20 | --- | 07 06 29 | 29.1 | 301.2 | 6.4 | | 43.2 | 160 | 158 | 12 18 41 |
| 12 21 40 | J0038+4137 | 07 06 49 | 28.6 | 302.4 | 6.5 | | 42.7 | 5 | 158 | 12 21 40 |
| 12 22 20 | =0035+413 | 07 07 29 | 28.5 | 302.5 | 6.5 | | 42.7 | 40 | 159 | 12 21 41 |
| 12 22 40 | M31_MSR | 07 07 49 | 29.0 | 301.4 | 6.4 | | 43.1 | 6 | 159 | 12 22 40 |
| 12 25 20 | --- | 07 10 29 | 28.6 | 301.9 | 6.4 | | 42.8 | 160 | 162 | 12 22 41 |
| 12 25 40 | J0038+4137 | 07 10 49 | 28.0 | 303.1 | 6.5 | | 42.4 | 5 | 162 | 12 25 40 |
| 12 26 20 | =0035+413 | 07 11 29 | 28.0 | 303.2 | 6.5 | | 42.3 | 40 | 162 | 12 25 41 |

Schedule for TORUN (Code Tr ) Page 9

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| 12 26 40 | M31_MSR | 07 11 50 | 28.5 | 302.1 | 6.4 | | 42.7 | 6 | 162 | 12 26 40 |
| 12 29 20 | --- | 07 14 30 | 28.1 | 302.5 | 6.5 | | 42.5 | 160 | 165 | 12 26 41 |
| 12 29 40 | J0038+4137 | 07 14 50 | 27.5 | 303.7 | 6.6 | | 42.0 | 5 | 165 | 12 29 40 |
| 12 30 40 | =0035+413 | 07 15 50 | 27.4 | 303.8 | 6.6 | | 41.9 | 60 | 166 | 12 29 41 |
| 12 31 00 | J0038+4137 | 07 16 10 | 27.4 | 303.9 | 6.6 | | 41.9 | 14 | 166 | 12 31 00 |
| 12 31 40 | =0035+413 | 07 16 50 | 27.3 | 304.0 | 6.6 | | 41.8 | 40 | 166 | 12 31 01 |
| 12 32 00 | M31_MSR | 07 17 10 | 27.8 | 302.9 | 6.5 | | 42.2 | 6 | 166 | 12 32 00 |
| 12 34 40 | --- | 07 19 51 | 27.4 | 303.3 | 6.6 | | 42.0 | 160 | 169 | 12 32 01 |
| 12 35 00 | J0038+4137 | 07 20 11 | 26.9 | 304.5 | 6.7 | | 41.5 | 5 | 169 | 12 35 00 |
| 12 35 40 | =0035+413 | 07 20 51 | 26.8 | 304.6 | 6.7 | | 41.4 | 40 | 170 | 12 35 01 |
| 12 36 00 | M31_MSR | 07 21 11 | 27.3 | 303.5 | 6.6 | | 41.9 | 6 | 170 | 12 36 00 |
| 12 38 40 | --- | 07 23 52 | 26.9 | 304.0 | 6.6 | | 41.6 | 160 | 172 | 12 36 01 |
| 12 39 00 | J0038+4137 | 07 24 12 | 26.4 | 305.2 | 6.7 | | 41.1 | 5 | 172 | 12 39 00 |
| 12 39 40 | =0035+413 | 07 24 52 | 26.3 | 305.3 | 6.8 | | 41.0 | 40 | 173 | 12 39 01 |
| 12 40 00 | M31_MSR | 07 25 12 | 26.8 | 304.2 | 6.7 | | 41.5 | 6 | 173 | 12 40 00 |
| 12 42 40 | --- | 07 27 52 | 26.4 | 304.6 | 6.7 | | 41.2 | 160 | 175 | 12 40 01 |
| 12 43 00 | J0038+4137 | 07 28 12 | 25.9 | 305.8 | 6.8 | | 40.7 | 5 | 175 | 12 43 00 |
| 12 44 00 | =0035+413 | 07 29 12 | 25.8 | 305.9 | 6.8 | | 40.6 | 60 | 176 | 12 43 01 |
| 12 44 20 | J0038+4137 | 07 29 32 | 25.7 | 306.0 | 6.8 | | 40.6 | 14 | 176 | 12 44 20 |
| 12 45 00 | =0035+413 | 07 30 13 | 25.7 | 306.1 | 6.8 | | 40.5 | 40 | 177 | 12 44 21 |
| 12 45 20 | M31_MSR | 07 30 33 | 26.1 | 305.0 | 6.8 | | 41.0 | 6 | 177 | 12 45 20 |
| 12 48 00 | --- | 07 33 13 | 25.8 | 305.4 | 6.8 | | 40.7 | 160 | 179 | 12 45 21 |
| 12 48 20 | J0038+4137 | 07 33 33 | 25.2 | 306.6 | 6.9 | | 40.2 | 5 | 179 | 12 48 20 |
| 12 49 00 | =0035+413 | 07 34 13 | 25.2 | 306.7 | 6.9 | | 40.1 | 40 | 180 | 12 48 21 |
| 12 49 20 | M31_MSR | 07 34 33 | 25.6 | 305.6 | 6.8 | | 40.6 | 6 | 180 | 12 49 20 |
| 12 52 00 | --- | 07 37 14 | 25.3 | 306.1 | 6.9 | | 40.3 | 160 | 183 | 12 49 21 |
| 12 52 20 | J0038+4137 | 07 37 34 | 24.8 | 307.3 | 7.0 | | 39.8 | 5 | 183 | 12 52 20 |
| 12 53 00 | =0035+413 | 07 38 14 | 24.7 | 307.4 | 7.0 | | 39.7 | 40 | 183 | 12 52 21 |
| 12 53 20 | M31_MSR | 07 38 34 | 25.1 | 306.3 | 6.9 | | 40.2 | 6 | 183 | 12 53 20 |
| 12 56 00 | --- | 07 41 14 | 24.8 | 306.7 | 6.9 | | 39.9 | 160 | 186 | 12 53 21 |

Schedule for TORUN (Code Tr ) Page 10

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| 12 56 20 | J0038+4137 | 07 41 34 | 24.3 | 307.9 | 7.0 | | 39.4 | 5 | 186 | 12 56 20 |
| 12 57 20 | =0035+413 | 07 42 35 | 24.2 | 308.1 | 7.1 | | 39.3 | 60 | 187 | 12 56 21 |
| 12 57 40 | J0038+4137 | 07 42 55 | 24.1 | 308.1 | 7.1 | | 39.3 | 14 | 187 | 12 57 40 |
| 12 58 20 | =0035+413 | 07 43 35 | 24.1 | 308.2 | 7.1 | | 39.2 | 40 | 187 | 12 57 41 |
| 12 58 40 | M31_MSR | 07 43 55 | 24.5 | 307.1 | 7.0 | | 39.7 | 6 | 187 | 12 58 40 |
| 13 01 20 | --- | 07 46 35 | 24.2 | 307.6 | 7.0 | | 39.4 | 160 | 190 | 12 58 41 |
| 13 01 40 | J0038+4137 | 07 46 55 | 23.7 | 308.7 | 7.1 | | 38.8 | 5 | 190 | 13 01 40 |
| 13 02 20 | =0035+413 | 07 47 35 | 23.6 | 308.9 | 7.1 | | 38.8 | 40 | 191 | 13 01 41 |
| 13 02 40 | M31_MSR | 07 47 55 | 24.0 | 307.8 | 7.0 | | 39.3 | 6 | 191 | 13 02 40 |
| 13 05 20 | --- | 07 50 36 | 23.7 | 308.2 | 7.1 | | 39.0 | 160 | 193 | 13 02 41 |
| 13 05 40 | J0038+4137 | 07 50 56 | 23.2 | 309.4 | 7.2 | | 38.4 | 5 | 193 | 13 05 40 |
| 13 06 20 | =0035+413 | 07 51 36 | 23.1 | 309.5 | 7.2 | | 38.4 | 40 | 194 | 13 05 41 |
| 13 06 40 | M31_MSR | 07 51 56 | 23.5 | 308.4 | 7.1 | | 38.9 | 6 | 194 | 13 06 40 |
| 13 09 20 | --- | 07 54 37 | 23.2 | 308.8 | 7.2 | | 38.6 | 160 | 196 | 13 06 41 |
| 13 09 40 | J0038+4137 | 07 54 57 | 22.7 | 310.0 | 7.3 | | 38.0 | 5 | 196 | 13 09 40 |
| 13 10 40 | =0035+413 | 07 55 57 | 22.6 | 310.2 | 7.3 | | 37.9 | 60 | 197 | 13 09 41 |
| 13 11 00 | J0038+4137 | 07 56 17 | 22.6 | 310.2 | 7.3 | | 37.9 | 14 | 197 | 13 11 00 |
| 13 11 40 | =0035+413 | 07 56 57 | 22.5 | 310.3 | 7.3 | | 37.8 | 40 | 198 | 13 11 01 |
| 13 12 00 | M31_MSR | 07 57 17 | 22.9 | 309.3 | 7.2 | | 38.3 | 6 | 198 | 13 12 00 |
| 13 14 40 | --- | 07 59 57 | 22.6 | 309.7 | 7.2 | | 38.0 | 160 | 201 | 13 12 01 |
| 13 15 00 | J0038+4137 | 08 00 17 | 22.1 | 310.9 | 7.4 | | 37.4 | 5 | 201 | 13 15 00 |
| 13 15 40 | =0035+413 | 08 00 58 | 22.0 | 311.0 | 7.4 | | 37.4 | 40 | 201 | 13 15 01 |
| 13 16 00 | M31_MSR | 08 01 18 | 22.4 | 309.9 | 7.3 | | 37.9 | 6 | 201 | 13 16 00 |
| 13 18 40 | --- | 08 03 58 | 22.1 | 310.3 | 7.3 | | 37.6 | 160 | 204 | 13 16 01 |
| 13 19 00 | J0038+4137 | 08 04 18 | 21.7 | 311.5 | 7.4 | | 37.0 | 5 | 204 | 13 19 00 |
| 13 19 40 | =0035+413 | 08 04 58 | 21.6 | 311.6 | 7.4 | | 36.9 | 40 | 204 | 13 19 01 |
| 13 20 00 | M31_MSR | 08 05 18 | 22.0 | 310.5 | 7.3 | | 37.5 | 6 | 204 | 13 20 00 |
| 13 22 40 | --- | 08 07 59 | 21.7 | 311.0 | 7.4 | | 37.2 | 160 | 207 | 13 20 01 |
| 13 23 00 | J0038+4137 | 08 08 19 | 21.2 | 312.2 | 7.5 | | 36.6 | 5 | 207 | 13 23 00 |
| 13 24 00 | =0035+413 | 08 09 19 | 21.1 | 312.3 | 7.5 | | 36.5 | 60 | 208 | 13 23 01 |

Schedule for TORUN (Code Tr ) Page 11

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| 13 24 20 | J0038+4137 | 08 09 39 | 21.1 | 312.4 | 7.5 | | 36.4 | 14 | 208 | 13 24 20 |
| 13 25 00 | =0035+413 | 08 10 19 | 21.0 | 312.5 | 7.5 | | 36.4 | 40 | 209 | 13 24 21 |
| 13 25 20 | M31_MSR | 08 10 39 | 21.4 | 311.4 | 7.4 | | 36.9 | 6 | 209 | 13 25 20 |
| 13 28 00 | --- | 08 13 20 | 21.1 | 311.8 | 7.5 | | 36.6 | 160 | 211 | 13 25 21 |
| 13 28 20 | J0038+4137 | 08 13 40 | 20.6 | 313.0 | 7.6 | | 36.0 | 5 | 211 | 13 28 20 |
| 13 29 00 | =0035+413 | 08 14 20 | 20.6 | 313.1 | 7.6 | | 35.9 | 40 | 212 | 13 28 21 |
| 13 29 20 | M31_MSR | 08 14 40 | 20.9 | 312.0 | 7.5 | | 36.5 | 6 | 212 | 13 29 20 |
| 13 32 00 | --- | 08 17 20 | 20.6 | 312.5 | 7.5 | | 36.2 | 160 | 214 | 13 29 21 |
| 13 32 20 | J0038+4137 | 08 17 40 | 20.2 | 313.7 | 7.6 | | 35.6 | 5 | 214 | 13 32 20 |
| 13 33 00 | =0035+413 | 08 18 20 | 20.1 | 313.8 | 7.7 | | 35.5 | 40 | 215 | 13 32 21 |
| 13 33 20 | M31_MSR | 08 18 40 | 20.5 | 312.7 | 7.6 | | 36.0 | 6 | 215 | 13 33 20 |
| 13 36 00 | --- | 08 21 21 | 20.2 | 313.1 | 7.6 | | 35.7 | 160 | 218 | 13 33 21 |
| 13 36 20 | J0038+4137 | 08 21 41 | 19.8 | 314.3 | 7.7 | | 35.1 | 5 | 218 | 13 36 20 |
| 13 37 20 | =0035+413 | 08 22 41 | 19.6 | 314.5 | 7.7 | | 35.0 | 60 | 219 | 13 36 21 |
| 13 37 40 | J0038+4137 | 08 23 01 | 19.6 | 314.5 | 7.7 | | 35.0 | 14 | 219 | 13 37 40 |
| 13 38 20 | =0035+413 | 08 23 41 | 19.5 | 314.6 | 7.7 | | 34.9 | 40 | 219 | 13 37 41 |
| 13 38 40 | M31_MSR | 08 24 01 | 19.9 | 313.6 | 7.6 | | 35.5 | 6 | 219 | 13 38 40 |
| 13 41 20 | --- | 08 26 42 | 19.6 | 314.0 | 7.7 | | 35.2 | 160 | 222 | 13 38 41 |
| 13 41 40 | J0038+4137 | 08 27 02 | 19.2 | 315.2 | 7.8 | | 34.5 | 5 | 222 | 13 41 40 |
| 13 42 20 | =0035+413 | 08 27 42 | 19.1 | 315.3 | 7.8 | | 34.4 | 40 | 222 | 13 41 41 |
| 13 42 40 | M31_MSR | 08 28 02 | 19.5 | 314.2 | 7.7 | | 35.0 | 6 | 222 | 13 42 40 |
| 13 45 20 | --- | 08 30 42 | 19.2 | 314.7 | 7.8 | | 34.7 | 160 | 225 | 13 42 41 |
| 13 45 40 | J0038+4137 | 08 31 03 | 18.8 | 315.8 | 7.9 | | 34.1 | 5 | 225 | 13 45 40 |
| 13 46 20 | =0035+413 | 08 31 43 | 18.7 | 316.0 | 7.9 | | 34.0 | 40 | 226 | 13 45 41 |
| 13 46 40 | M31_MSR | 08 32 03 | 19.0 | 314.9 | 7.8 | | 34.6 | 6 | 226 | 13 46 40 |
| 13 49 20 | --- | 08 34 43 | 18.8 | 315.3 | 7.8 | | 34.3 | 160 | 228 | 13 46 41 |
| 13 49 40 | J0038+4137 | 08 35 03 | 18.3 | 316.5 | 7.9 | | 33.6 | 5 | 228 | 13 49 40 |
| 13 50 40 | =0035+413 | 08 36 03 | 18.2 | 316.7 | 7.9 | | 33.5 | 60 | 229 | 13 49 41 |
| 13 51 00 | J0038+4137 | 08 36 23 | 18.2 | 316.7 | 8.0 | | 33.5 | 14 | 229 | 13 51 00 |
| 13 51 40 | =0035+413 | 08 37 04 | 18.1 | 316.8 | 8.0 | | 33.4 | 40 | 230 | 13 51 01 |

Schedule for TORUN (Code Tr ) Page 12

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| 13 52 00 | M31_MSR | 08 37 24 | 18.5 | 315.7 | 7.9 | | 34.0 | 6 | 230 | 13 52 00 |
| 13 54 40 | --- | 08 40 04 | 18.2 | 316.2 | 7.9 | | 33.7 | 160 | 232 | 13 52 01 |
| 13 55 00 | J0038+4137 | 08 40 24 | 17.8 | 317.4 | 8.0 | | 33.0 | 5 | 232 | 13 55 00 |
| 13 55 40 | =0035+413 | 08 41 04 | 17.7 | 317.5 | 8.0 | | 32.9 | 40 | 233 | 13 55 01 |
| 13 56 00 | M31_MSR | 08 41 24 | 18.1 | 316.4 | 7.9 | | 33.5 | 6 | 233 | 13 56 00 |
| 13 58 40 | --- | 08 44 05 | 17.8 | 316.8 | 8.0 | | 33.2 | 160 | 236 | 13 56 01 |
| 13 59 00 | J0038+4137 | 08 44 25 | 17.4 | 318.0 | 8.1 | | 32.5 | 5 | 236 | 13 59 00 |
| 13 59 40 | =0035+413 | 08 45 05 | 17.3 | 318.2 | 8.1 | | 32.4 | 40 | 236 | 13 59 01 |
| 14 00 00 | M31_MSR | 08 45 25 | 17.6 | 317.1 | 8.0 | | 33.0 | 6 | 236 | 14 00 00 |
| 14 02 40 | --- | 08 48 05 | 17.4 | 317.5 | 8.0 | | 32.7 | 160 | 239 | 14 00 01 |
| 14 03 00 | J0038+4137 | 08 48 25 | 17.0 | 318.7 | 8.2 | | 32.1 | 5 | 239 | 14 03 00 |
| 14 04 00 | =0035+413 | 08 49 26 | 16.9 | 318.9 | 8.2 | | 31.9 | 60 | 240 | 14 03 01 |
| 14 04 20 | J0038+4137 | 08 49 46 | 16.9 | 318.9 | 8.2 | | 31.9 | 14 | 240 | 14 04 20 |
| 14 05 00 | =0035+413 | 08 50 26 | 16.8 | 319.0 | 8.2 | | 31.8 | 40 | 240 | 14 04 21 |
| 14 05 20 | M31_MSR | 08 50 46 | 17.1 | 317.9 | 8.1 | | 32.4 | 6 | 240 | 14 05 20 |
| 14 08 00 | --- | 08 53 26 | 16.8 | 318.4 | 8.1 | | 32.1 | 160 | 243 | 14 05 21 |
| 14 08 20 | J0038+4137 | 08 53 46 | 16.5 | 319.6 | 8.2 | | 31.4 | 5 | 243 | 14 08 20 |
| 14 09 00 | =0035+413 | 08 54 26 | 16.4 | 319.7 | 8.3 | | 31.3 | 40 | 244 | 14 08 21 |
| 14 09 20 | M31_MSR | 08 54 46 | 16.7 | 318.6 | 8.2 | | 32.0 | 6 | 244 | 14 09 20 |
| 14 12 00 | --- | 08 57 27 | 16.4 | 319.1 | 8.2 | | 31.6 | 160 | 246 | 14 09 21 |
| 14 12 20 | J0038+4137 | 08 57 47 | 16.1 | 320.3 | 8.3 | | 30.9 | 5 | 246 | 14 12 20 |
| 14 13 00 | =0035+413 | 08 58 27 | 16.0 | 320.4 | 8.3 | | 30.9 | 40 | 247 | 14 12 21 |
| 14 13 20 | M31_MSR | 08 58 47 | 16.3 | 319.3 | 8.2 | | 31.5 | 6 | 247 | 14 13 20 |
| 14 16 00 | --- | 09 01 27 | 16.0 | 319.7 | 8.3 | | 31.2 | 160 | 249 | 14 13 21 |
| 14 16 20 | J0038+4137 | 09 01 48 | 15.7 | 320.9 | 8.4 | | 30.5 | 5 | 249 | 14 16 20 |
| 14 17 20 | =0035+413 | 09 02 48 | 15.6 | 321.1 | 8.4 | | 30.3 | 60 | 250 | 14 16 21 |
| 14 17 40 | J0038+4137 | 09 03 08 | 15.6 | 321.2 | 8.4 | | 30.3 | 14 | 250 | 14 17 40 |
| 14 18 20 | =0035+413 | 09 03 48 | 15.5 | 321.3 | 8.4 | | 30.2 | 40 | 251 | 14 17 41 |
| 14 18 40 | M31_MSR | 09 04 08 | 15.8 | 320.2 | 8.3 | | 30.8 | 6 | 251 | 14 18 40 |
| 14 21 20 | --- | 09 06 48 | 15.5 | 320.6 | 8.4 | | 30.5 | 160 | 254 | 14 18 41 |
| 14 21 40 | J0038+4137 | 09 07 08 | 15.2 | 321.8 | 8.5 | | 29.8 | 5 | 254 | 14 21 40 |
| 14 22 20 | =0035+413 | 09 07 49 | 15.1 | 321.9 | 8.5 | | 29.7 | 40 | 254 | 14 21 41 |

Schedule for TORUN (Code Tr ) Page 13

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| 14 22 40 | M31_MSR | 09 08 09 | 15.4 | 320.8 | 8.4 | | 30.4 | 6 | 254 | 14 22 40 |
| 14 25 20 | --- | 09 10 49 | 15.2 | 321.3 | 8.4 | | 30.0 | 160 | 257 | 14 22 41 |
| 14 25 40 | J0038+4137 | 09 11 09 | 14.8 | 322.5 | 8.5 | | 29.3 | 5 | 257 | 14 25 40 |
| 14 26 20 | =0035+413 | 09 11 49 | 14.8 | 322.6 | 8.5 | | 29.2 | 40 | 257 | 14 25 41 |
| 14 26 40 | M31_MSR | 09 12 09 | 15.0 | 321.5 | 8.5 | | 29.9 | 6 | 257 | 14 26 40 |
| 14 29 20 | --- | 09 14 50 | 14.8 | 322.0 | 8.5 | | 29.5 | 160 | 260 | 14 26 41 |
| 14 29 40 | J0038+4137 | 09 15 10 | 14.5 | 323.2 | 8.6 | | 28.8 | 5 | 260 | 14 29 40 |
| 14 30 40 | =0035+413 | 09 16 10 | 14.4 | 323.3 | 8.6 | | 28.7 | 60 | 261 | 14 29 41 |
| 14 31 00 | J0038+4137 | 09 16 30 | 14.3 | 323.4 | 8.6 | | 28.7 | 14 | 261 | 14 31 00 |
| 14 31 40 | =0035+413 | 09 17 10 | 14.3 | 323.5 | 8.6 | | 28.6 | 40 | 262 | 14 31 01 |
| 14 32 00 | M31_MSR | 09 17 30 | 14.5 | 322.4 | 8.5 | | 29.2 | 6 | 262 | 14 32 00 |
| 14 34 40 | --- | 09 20 11 | 14.3 | 322.9 | 8.6 | | 28.9 | 160 | 264 | 14 32 01 |
| 14 35 00 | J0038+4137 | 09 20 31 | 14.0 | 324.1 | 8.7 | | 28.2 | 5 | 264 | 14 35 00 |
| 14 35 40 | =0035+413 | 09 21 11 | 13.9 | 324.2 | 8.7 | | 28.1 | 40 | 265 | 14 35 01 |
| 14 36 00 | M31_MSR | 09 21 31 | 14.2 | 323.1 | 8.6 | | 28.7 | 6 | 265 | 14 36 00 |
| 14 38 40 | --- | 09 24 11 | 13.9 | 323.6 | 8.7 | | 28.4 | 160 | 267 | 14 36 01 |
| 14 39 00 | J0038+4137 | 09 24 31 | 13.6 | 324.8 | 8.8 | | 27.6 | 5 | 267 | 14 39 00 |
| 14 39 40 | =0035+413 | 09 25 11 | 13.6 | 324.9 | 8.8 | | 27.6 | 40 | 268 | 14 39 01 |
| 14 40 00 | M31_MSR | 09 25 31 | 13.8 | 323.8 | 8.7 | | 28.2 | 6 | 268 | 14 40 00 |
| 14 42 40 | --- | 09 28 12 | 13.6 | 324.2 | 8.7 | | 27.9 | 160 | 271 | 14 40 01 |
| 14 43 00 | J0038+4137 | 09 28 32 | 13.3 | 325.4 | 8.8 | | 27.1 | 5 | 271 | 14 43 00 |
| 14 44 00 | =0035+413 | 09 29 32 | 13.2 | 325.6 | 8.8 | | 27.0 | 60 | 271 | 14 43 01 |
| 14 44 20 | J0038+4137 | 09 29 52 | 13.2 | 325.7 | 8.8 | | 27.0 | 14 | 271 | 14 44 20 |
| 14 45 00 | =0035+413 | 09 30 32 | 13.1 | 325.8 | 8.9 | | 26.9 | 40 | 272 | 14 44 21 |
| 14 45 00 | J0038+4137 | 09 30 32 | 13.1 | 325.8 | 8.9 | | 26.9 | -5 | 272 | No stop |
| 14 46 00 | =0035+413 | 09 31 32 | 13.0 | 326.0 | 8.9 | | 26.8 | 55 | 273 | 14 45 01 |
| 14 46 20 | 3C48 | 09 31 52 | 11.5 | 311.3 | 7.9 | | 32.6 | -24 | 273 | 14 46 20 |
| 14 51 20 | --- | 09 36 53 | 11.0 | 312.2 | 8.0 | | 32.1 | 276 | 278 | 14 46 21 |
| 14 52 40 | 3C84 | 09 38 14 | 29.8 | 300.8 | 6.3 | | 43.6 | -4 | 278 | 14 52 40 |
| 14 55 30 | --- | 09 41 04 | 29.4 | 301.2 | 6.3 | | 43.4 | 166 | 281 | 14 52 41 |
| 14 55 30 | 3C84 | 09 41 04 | 29.4 | 301.2 | 6.3 | | 43.4 | -5 | 281 | No stop |
| 15 00 00 | --- | 09 45 35 | 28.8 | 301.9 | 6.4 | | 42.9 | 265 | 285 | 14 55 31 |

SETUP FILE INFORMATION:

```
   Setup group:   18         Station: TORUN            Total bit rate:   128
   Format: MARK5B            Bits per sample: 2        Sample rate: 32.000
   Number of channels:  2    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.

   1st LO=   5900.00   5900.00
   Net SB=         U         U
   IF SB =         U         U
   Pol.  =      RCP       LCP
   BBC   =        1         5
   BBC SB=        U         U
   IF    =       A1        B1

  The following frequency sets based on these setups were used.

  Frequency Set:   6  Based on FREQ, BW, and/or DOPPLER in schedule.  Used with PCAL = off
   LO sum=   6666.25  6666.25
   BBC fr=    766.25   766.25
   Bandwd=     16.00    16.00
    Matching frequency sets:   6

   Track assignments are:
    track1=   2,  4
    barrel=roll_off
```

POSITIONS OF SOURCES USED IN RECORDING SCANS

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * M31_MSR | 00 41 34.512795 | * 00 44 19.170000 | 00 45 07.353717 | 0.00 |
| | 41 03 06.21546 | * 41 19 30.60000 | 41 24 02.37769 | 0.00 |
| * J0038+4137 | 00 35 41.568818 | * 00 38 24.843586 | 00 39 12.671735 | 0.14 |
| 0035+413 | 41 20 37.14185 | * 41 37 06.00024 | 41 41 39.20159 | 0.10 |
| J0137+3309 | 01 34 49.826374 | * 01 37 41.299440 | 01 38 31.005396 | 0.52 |
| * 3C48 | 32 54 20.25881 | * 33 09 35.13299 | 33 13 47.22695 | 0.50 |
| J0319+4130 | 03 16 29.567260 | * 03 19 48.160090 | 03 20 45.130328 | 1.30 |
| * 3C84 | 41 19 51.91699 | * 41 30 42.10412 | 41 33 34.85827 | 2.72 |
| J2253+1608 | 22 51 29.519738 | * 22 53 57.747937 | 22 54 41.436384 | 0.68 |
| * 3C454.3 | 15 52 54.34810 | * 16 08 53.56093 | 16 13 30.18805 | 0.72 |

| Source | Sun distance (deg) |
|---|---|
| M31_MSR | 61.3 |
| J0038+4137 | 62.4 |
| 3C48 | 51.5 |
| 3C84 | 32.7 |
| 3C454.3 | 91.7 |

# es072jtr

## 6.7GHz CH3OH maser polarization towards massive protostars. II.

PI: *G. Surcis*

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Notes: Polarization observations of 1 sources at 6.7 GHz (32 Mb/s); source = G29.95-0.02

Schedule for TORUN (Code Tr ) Page 2
6.7GHz CH3OH maser polarization towards massive protostars. II.
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 14 Jun 2014 Day 165 --- | | | | | | | | | | |
| Next scan frequencies: | | 6665.95 | 6665.95 | 6665.95 | 6665.95 | | | | | |
| Next BBC frequencies: | | 765.95 | 765.95 | 765.95 | 765.95 | | | | | |
| Next scan bandwidths: | | 2.00 | 2.00 | 2.00 | 2.00 | | | | | |
| 21 30 00 | J2202+4216 | 16 16 39 | 34.4 | 63.4 | -5.8 | | -46.6 | 0 | 0 | 21 30 00 |
| 21 40 00 | =BLLAC | 16 26 40 | 35.7 | 64.9 | -5.6 | | -47.4 | 600 | 2 | 21 30 01 |
| 21 43 50 | G29.95-0.02 | 16 30 31 | 27.4 | 140.9 | -2.3 | | -22.3 | 64 | 2 | 21 43 50 |
| 21 53 50 | --- | 16 40 33 | 28.3 | 143.5 | -2.1 | | -20.9 | 600 | 5 | 21 43 51 |
| 21 54 20 | G29.95-0.02 | 16 41 03 | 28.4 | 143.7 | -2.1 | | -20.9 | 24 | 5 | 21 54 20 |
| 22 04 20 | --- | 16 51 04 | 29.2 | 146.4 | -1.9 | | -19.4 | 600 | 7 | 21 54 21 |
| 22 04 50 | G29.95-0.02 | 16 51 35 | 29.3 | 146.5 | -1.9 | | -19.4 | 24 | 7 | 22 04 50 |
| 22 14 50 | --- | 17 01 36 | 30.1 | 149.2 | -1.8 | | -17.9 | 600 | 10 | 22 04 51 |
| 22 15 20 | G29.95-0.02 | 17 02 06 | 30.1 | 149.4 | -1.7 | | -17.8 | 24 | 10 | 22 15 20 |
| 22 25 20 | --- | 17 12 08 | 30.8 | 152.1 | -1.6 | | -16.3 | 600 | 12 | 22 15 21 |
| 22 29 20 | J2202+4216 | 17 16 09 | 42.6 | 72.6 | -4.8 | | -50.8 | 66 | 12 | 22 29 20 |
| 22 39 20 | =BLLAC | 17 26 10 | 44.1 | 74.2 | -4.6 | | -51.4 | 600 | 15 | 22 29 21 |
| 22 49 00 | J1331+3030 | 17 35 52 | 41.0 | 267.7 | 4.1 | | 44.1 | 179 | 15 | 22 49 00 |
| 22 59 00 | =3C286 | 17 45 53 | 39.5 | 269.8 | 4.2 | | 44.1 | 600 | 17 | 22 49 01 |
| 23 04 50 | G29.95-0.02 | 17 51 44 | 33.1 | 163.5 | -0.9 | | -9.8 | 121 | 17 | 23 04 50 |
| 23 14 50 | --- | 18 01 46 | 33.5 | 166.5 | -0.8 | | -8.1 | 600 | 19 | 23 04 51 |
| 23 15 20 | G29.95-0.02 | 18 02 16 | 33.5 | 166.6 | -0.7 | | -8.0 | 24 | 19 | 23 15 20 |
| 23 25 20 | --- | 18 12 18 | 33.8 | 169.6 | -0.6 | | -6.2 | 600 | 22 | 23 15 21 |
| 23 25 50 | G29.95-0.02 | 18 12 48 | 33.8 | 169.7 | -0.6 | | -6.1 | 24 | 22 | 23 25 50 |
| 23 35 50 | --- | 18 22 49 | 34.0 | 172.8 | -0.4 | | -4.3 | 600 | 24 | 23 25 51 |
| 23 40 10 | J2202+4216 | 18 27 10 | 53.1 | 84.5 | -3.6 | | -54.0 | 68 | 24 | 23 40 10 |
| 23 50 10 | =BLLAC | 18 37 12 | 54.6 | 86.4 | -3.4 | | -54.2 | 600 | 27 | 23 40 11 |

Schedule for TORUN (Code Tr ) Page 3

6.7GHz CH3OH maser polarization towards massive protostars. II.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Start: Sat 14 Jun 2014 Day 165 -- Stop: Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | |
| 23 54 40 | G29.95-0.02 | 18 41 43 | 34.3 | 178.4 | -0.1 | | -0.9 | 72 | 27 | 23 54 40 |
| 00 04 40 | --- | 18 51 44 | 34.3 | 181.5 | 0.1 | | 0.9 | 600 | 29 | 23 54 41 |
| 00 05 10 | G29.95-0.02 | 18 52 14 | 34.3 | 181.6 | 0.1 | | 1.0 | 24 | 29 | 00 05 10 |
| 00 15 10 | --- | 19 02 16 | 34.2 | 184.7 | 0.3 | | 2.8 | 600 | 31 | 00 05 11 |
| 00 15 40 | G29.95-0.02 | 19 02 46 | 34.2 | 184.8 | 0.3 | | 2.9 | 24 | 31 | 00 15 40 |
| 00 25 40 | --- | 19 12 48 | 34.0 | 187.8 | 0.4 | | 4.7 | 600 | 34 | 00 15 41 |
| 00 26 10 | G29.95-0.02 | 19 13 18 | 34.0 | 188.0 | 0.4 | | 4.8 | 24 | 34 | 00 26 10 |
| 00 34 10 | --- | 19 21 19 | 33.8 | 190.4 | 0.6 | | 6.2 | 480 | 36 | 00 26 11 |
| 00 38 50 | J2202+4216 | 19 26 00 | 61.9 | 96.4 | -2.6 | | -53.8 | 76 | 36 | 00 38 50 |
| 00 48 50 | =BLLAC | 19 36 01 | 63.4 | 98.8 | -2.5 | | -53.4 | 600 | 38 | 00 38 51 |
| 00 53 40 | G29.95-0.02 | 19 40 52 | 33.1 | 196.2 | 0.9 | | 9.6 | 81 | 38 | 00 53 40 |
| 01 03 40 | --- | 19 50 54 | 32.7 | 199.1 | 1.1 | | 11.3 | 600 | 41 | 00 53 41 |
| 01 04 10 | G29.95-0.02 | 19 51 24 | 32.6 | 199.3 | 1.1 | | 11.4 | 24 | 41 | 01 04 10 |
| 01 14 10 | --- | 20 01 26 | 32.1 | 202.2 | 1.2 | | 13.1 | 600 | 43 | 01 04 11 |
| 01 14 40 | G29.95-0.02 | 20 01 56 | 32.1 | 202.3 | 1.3 | | 13.2 | 24 | 43 | 01 14 40 |
| 01 24 40 | --- | 20 11 57 | 31.5 | 205.2 | 1.4 | | 14.8 | 600 | 45 | 01 14 41 |
| 01 25 10 | G29.95-0.02 | 20 12 27 | 31.4 | 205.3 | 1.4 | | 14.9 | 24 | 45 | 01 25 10 |
| 01 35 10 | --- | 20 22 29 | 30.8 | 208.1 | 1.6 | | 16.5 | 600 | 48 | 01 25 11 |
| 01 40 10 | J2202+4216 | 20 27 30 | 70.8 | 114.3 | -1.6 | | -47.8 | 96 | 48 | 01 40 10 |
| 01 50 10 | =BLLAC | 20 37 32 | 72.1 | 118.3 | -1.4 | | -45.7 | 600 | 50 | 01 40 11 |
| 01 55 20 | G29.95-0.02 | 20 42 42 | 29.2 | 213.7 | 1.9 | | 19.5 | 105 | 50 | 01 55 20 |
| 02 05 20 | --- | 20 52 44 | 28.3 | 216.3 | 2.1 | | 20.9 | 600 | 53 | 01 55 21 |
| 02 05 50 | G29.95-0.02 | 20 53 14 | 28.3 | 216.5 | 2.1 | | 20.9 | 24 | 53 | 02 05 50 |
| 02 15 50 | --- | 21 03 16 | 27.4 | 219.1 | 2.3 | | 22.3 | 600 | 55 | 02 05 51 |
| 02 16 20 | G29.95-0.02 | 21 03 46 | 27.3 | 219.2 | 2.3 | | 22.3 | 24 | 55 | 02 16 20 |
| 02 26 20 | --- | 21 13 47 | 26.4 | 221.8 | 2.4 | | 23.6 | 600 | 58 | 02 16 21 |
| 02 26 50 | G29.95-0.02 | 21 14 18 | 26.3 | 221.9 | 2.5 | | 23.7 | 24 | 58 | 02 26 50 |
| 02 36 50 | --- | 21 24 19 | 25.3 | 224.5 | 2.6 | | 24.9 | 600 | 60 | 02 26 51 |
| 02 42 00 | J2202+4216 | 21 29 30 | 77.9 | 148.9 | -0.6 | | -24.8 | 99 | 60 | 02 42 00 |
| 02 52 00 | =BLLAC | 21 39 32 | 78.5 | 157.3 | -0.4 | | -18.3 | 600 | 62 | 02 42 01 |

Schedule for TORUN (Code Tr ) Page 4

6.7GHz CH3OH maser polarization towards massive protostars. II.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | Start LST | Start EL | Start AZ | Stop LST | Stop EL | Stop AZ | HA | UP | ParA | Early | Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | | | | | |
| 02 54 50 | J2136+0041 | 21 42 22 | 37.7 | 181.6 | | | | 0.1 | | 0.9 | | 3 | 62 | 02 54 50 |
| 03 04 50 | =2134+00 | 21 52 24 | 37.6 | 184.7 | | | | 0.2 | | 2.8 | | 600 | 65 | 02 54 51 |
| 03 07 40 | G29.95-0.02 | 21 55 14 | 21.8 | 232.0 | | | | 3.1 | | 28.3 | | 61 | 65 | 03 07 40 |
| 03 17 40 | --- | 22 05 16 | 20.6 | 234.4 | | | | 3.3 | | 29.2 | | 600 | 67 | 03 07 41 |
| 03 18 10 | G29.95-0.02 | 22 05 46 | 20.5 | 234.5 | | | | 3.3 | | 29.3 | | 24 | 67 | 03 18 10 |
| 03 27 10 | --- | 22 14 47 | 19.4 | 236.6 | | | | 3.5 | | 30.1 | | 540 | 69 | 03 18 11 |
| 03 27 40 | G29.95-0.02 | 22 15 18 | 19.4 | 236.7 | | | | 3.5 | | 30.2 | | 24 | 69 | 03 27 40 |
| 03 36 40 | --- | 22 24 19 | 18.2 | 238.7 | | | | 3.6 | | 30.9 | | 540 | 72 | 03 27 41 |
| 03 41 30 | J2202+4216 | 22 29 10 | 78.4 | 204.4 | | | | 0.4 | | 19.6 | | 50 | 72 | 03 41 30 |
| 03 50 10 | =BLLAC | 22 37 51 | 77.8 | 211.7 | | | | 0.6 | | 25.2 | | 520 | 74 | 03 41 31 |
| 03 55 00 | G29.95-0.02 | 22 42 42 | 15.8 | 242.8 | | | | 3.9 | | 32.3 | | 44 | 74 | 03 55 00 |
| 04 05 00 | --- | 22 52 44 | 14.5 | 245.0 | | | | 4.1 | | 33.0 | | 600 | 76 | 03 55 01 |
| 04 05 30 | G29.95-0.02 | 22 53 14 | 14.4 | 245.1 | | | | 4.1 | | 33.0 | | 24 | 76 | 04 05 30 |
| 04 15 30 | --- | 23 03 15 | 13.0 | 247.3 | | | | 4.3 | | 33.7 | | 600 | 79 | 04 05 31 |
| 04 20 00 | J2202+4216 | 23 07 46 | 74.8 | 231.5 | | | | 1.1 | | 39.5 | | 24 | 79 | 04 20 00 |
| 04 30 00 | =BLLAC | 23 17 48 | 73.6 | 236.6 | | | | 1.2 | | 42.7 | | 600 | 81 | 04 20 01 |

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: sess214.M32
--- WARNING --- This group does not match an entry in the frequency catalog.
This might be ok because the catalog is not complete.
But be very careful to be sure that the setup is correct.

Setup group: 7 Station: TORUN Total bit rate: 32
Format: MARK5B Bits per sample: 2 Sample rate: 4.000
Number of channels: 4 DBE type: Speedup factor: 1.00

Disk used to record data.

| | | | | |
|---|---|---|---|---|
| 1st LO= | 5900.00 | 5900.00 | 5900.00 | 5900.00 |
| Net SB= | U | U | U | U |
| Pol. = | RCP | LCP | RCP | LCP |
| BBC = | 1 | 5 | 2 | 6 |
| BBC SB= | U | U | U | U |
| IF = | A1 | B1 | A1 | B1 |

```
 The following frequency sets based on these setups were used.

 Frequency Set:   5  Based on FREQ, BW, and/or DOPPLER in schedule.
  LO sum=   6665.95  6665.95  6665.95  6665.95
  BBC fr=    765.95   765.95   765.95   765.95
  Bandwd=      2.00     2.00     2.00     2.00
   Matching frequency sets:   5

  Track assignments are:
   track1=   2,  4,  6,  8
   barrel=roll_off
```

SOURCES USED IN RECORDING SCANS -- 6.7GHz CH3OH maser polarization towards massive protostars. II.

Catalog positions marked with *.
Precession of date coordinates is based on stop time of first scan.
Names used in schedule marked with *.
Short names used in VLA and SNAP files marked with +.
Observation date used in B1950/J2000 coordinate conversion (PRECDATE): 1979.900
No adjustments are made for rates (DRA, DDEC).
Scan hours are for recording scans only.
Baseline hours are only counted for scans above horizon at both ends.

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * G29.95-0.02 | 18 43 26.880436 | * 18 46 03.740000 | 18 46 50.794849 | 0.00 |
| | -02 42 36.78487 | *-02 39 22.30000 | -02 38 15.24477 | 0.00 |
| * J1331+3030 | 13 28 49.657778 | * 13 31 08.288070 | 13 31 49.154536 | 0.20 |
| 3C286 | 30 45 58.64061 | * 30 30 32.95925 | 30 26 14.98885 | 0.19 |
| * J2136+0041 | 21 34 05.207371 | * 21 36 38.586306 | 21 37 24.007157 | 0.74 |
| 2134+00 | 00 28 25.08000 | * 00 41 54.21282 | 00 45 55.78412 | 1.25 |
| * J2202+4216 | 22 00 39.362504 | * 22 02 43.291371 | 22 03 20.702277 | 0.14 |
| BLLAC | 42 02 08.59073 | * 42 16 39.97987 | 42 20 46.51262 | 0.10 |

```
 The solar corona can cause unstable phases for sources too close to the Sun.
 SCHED provides warnings at individual scans for distances less than 10 degrees.
 The distance from the Sun to each source in this schedule is:
   Source         Sun distance (deg)
  G29.95-0.02        152.7
  J1331+3030         101.0
  J2136+0041         116.1
  J2202+4216          89.6
```

# gp051dtr

## Methanol in M31

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Phone: +1-505-277-4492 EMAIL: ylva@unm.edu

Schedule for TORUN (Code Tr ) Page 2
Methanol in M31
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | |
| Next scan frequencies: | | 6620.25 | 6620.25 | 6690.25 | 6690.25 | | | | | |
| Next BBC frequencies: | | 720.25 | 720.25 | 790.25 | 790.25 | | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | | | | | |
| 09 00 00 | 2148+065 | 03 48 32 | 5.7 | 274.2 | 6.0 | | 37.1 | 0 | 0 | 09 00 00 |
| 09 01 10 | --- | 03 49 42 | 5.5 | 274.4 | 6.0 | | 37.1 | 70 | 2 | 09 00 01 |
| 09 02 10 | 2148+065 | 03 50 42 | 5.3 | 274.6 | 6.0 | | 37.1 | 54 | 2 | 09 02 10 |
| 09 03 10 | --- | 03 51 43 | 5.2 | 274.8 | 6.0 | | 37.1 | 60 | 4 | 09 02 11 |
| 09 11 15 | 2225-045 | 03 59 49 | 0.1 | 261.7 | 5.6 | D | 36.6 | 441 | 4 | 09 11 15 |
| 09 12 15 | --- | 04 00 49 | -0.1 | 261.9 | 5.6 | D | 36.6 | 0 | 6 | 09 11 16 |
| 09 14 41 | 2236+282 | 04 03 15 | 27.4 | 281.9 | 5.4 | | 42.0 | 40 | 6 | 09 14 41 |
| 09 15 41 | --- | 04 04 16 | 27.2 | 282.1 | 5.5 | | 41.9 | 60 | 8 | 09 14 42 |
| 09 17 41 | 1740+521 | 04 06 16 | 17.1 | 345.1 | 10.4 | | 14.6 | -21 | 8 | 09 17 41 |
| 09 19 11 | --- | 04 07 46 | 17.1 | 345.3 | 10.4 | | 14.4 | 69 | 11 | 09 17 42 |
| 09 21 11 | 1638+572 | 04 09 47 | 20.6 | 355.9 | 11.5 | | 4.6 | 84 | 11 | 09 21 11 |
| 09 22 41 | --- | 04 11 17 | 20.6 | 356.1 | 11.5 | | 4.4 | 90 | 14 | 09 21 12 |
| 09 24 41 | 0726+791 | 04 13 17 | 59.3 | 376.1 | -3.3 | | -117.8 | -39 | 14 | 09 24 41 |
| 09 26 11 | --- | 04 14 47 | 59.4 | 376.0 | -3.2 | | -118.2 | 51 | 17 | 09 24 42 |
| 09 28 27 | 0958+653 | 04 17 04 | 48.3 | 398.4 | -5.7 | | -64.1 | 77 | 17 | 09 28 27 |
| 09 29 27 | --- | 04 18 04 | 48.4 | 398.5 | -5.7 | | -64.3 | 60 | 19 | 09 28 28 |
| 09 31 12 | 1153+805 | 04 19 50 | 48.7 | 372.7 | -7.6 | | -56.6 | 38 | 19 | 09 31 12 |
| 09 32 12 | --- | 04 20 50 | 48.8 | 372.7 | -7.6 | | -56.8 | 60 | 21 | 09 31 13 |
| 09 34 02 | 1302+574 | 04 22 40 | 28.0 | 387.5 | -8.7 | | -31.3 | 18 | 21 | 09 34 02 |
| 09 35 02 | --- | 04 23 40 | 28.1 | 387.6 | -8.7 | | -31.4 | 60 | 22 | 09 34 03 |
| 09 37 02 | 1746+622 | 04 25 40 | 26.6 | 349.7 | 10.7 | | 13.4 | 29 | 22 | 09 37 02 |
| 09 38 32 | --- | 04 27 11 | 26.6 | 349.9 | 10.7 | | 13.2 | 90 | 25 | 09 37 03 |

Schedule for TORUN (Code Tr ) Page 3

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Stop ParA | Early / Dwell | Disk GBytes | TPStart / SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | |
| Next scan frequencies: | | 6666.25 | 6666.25 | | | | | | | |
| Next BBC frequencies: | | 766.25 | 766.25 | | | | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | | | | | | | |
| 09 39 32 | 3C454.3 | 04 28 11 | 16.9 | 274.7 | 5.6 | | 38.6 | -105 | 25 | 09 39 32 |
| 09 42 32 | --- | 04 31 11 | 16.4 | 275.3 | 5.6 | | 38.5 | 75 | 28 | 09 39 57 |
| 09 42 32 | 3C454.3 | 04 31 11 | 16.4 | 275.3 | 5.6 | | 38.5 | -5 | 28 | No stop |
| 09 43 32 | --- | 04 32 12 | 16.3 | 275.5 | 5.6 | | 38.5 | 55 | 29 | 09 42 33 |
| 09 43 32 | 3C454.3 | 04 32 12 | 16.3 | 275.5 | 5.6 | | 38.5 | -5 | 29 | No stop |
| 09 46 32 | --- | 04 35 12 | 15.8 | 276.1 | 5.7 | | 38.4 | 175 | 32 | 09 43 33 |
| 09 47 32 | J0038+4137 | 04 36 12 | 49.6 | 278.3 | 3.9 | | 52.7 | -80 | 32 | 09 47 32 |
| 09 50 32 | =0035+413 | 04 39 13 | 49.1 | 278.9 | 4.0 | | 52.6 | 100 | 35 | 09 47 33 |
| 09 50 32 | J0038+4137 | 04 39 13 | 49.1 | 278.9 | 4.0 | | 52.6 | -5 | 35 | No stop |
| 09 51 32 | =0035+413 | 04 40 13 | 49.0 | 279.0 | 4.0 | | 52.6 | 55 | 36 | 09 50 33 |
| 09 51 52 | M31_MSR | 04 40 33 | 49.6 | 277.7 | 3.9 | | 52.5 | 5 | 36 | 09 51 52 |
| 09 54 32 | --- | 04 43 13 | 49.2 | 278.2 | 4.0 | | 52.4 | 160 | 38 | 09 51 53 |
| 09 54 52 | J0038+4137 | 04 43 33 | 48.5 | 279.6 | 4.1 | | 52.5 | 4 | 38 | 09 54 52 |
| 09 55 32 | =0035+413 | 04 44 14 | 48.4 | 279.7 | 4.1 | | 52.4 | 40 | 39 | 09 54 53 |
| 09 55 52 | M31_MSR | 04 44 34 | 49.0 | 278.4 | 4.0 | | 52.4 | 5 | 39 | 09 55 52 |
| 09 58 32 | --- | 04 47 14 | 48.6 | 278.9 | 4.0 | | 52.3 | 160 | 42 | 09 55 53 |
| 09 58 52 | J0038+4137 | 04 47 34 | 47.9 | 280.3 | 4.1 | | 52.3 | 4 | 42 | 09 58 52 |
| 09 59 32 | =0035+413 | 04 48 14 | 47.8 | 280.4 | 4.2 | | 52.3 | 40 | 42 | 09 58 53 |
| 09 59 52 | M31_MSR | 04 48 34 | 48.4 | 279.1 | 4.1 | | 52.2 | 5 | 42 | 09 59 52 |
| 10 01 32 | --- | 04 50 15 | 48.2 | 279.4 | 4.1 | | 52.2 | 100 | 44 | 09 59 53 |
| 10 01 52 | J0042 | 04 50 35 | 48.0 | 279.8 | 4.1 | | 52.2 | 9 | 44 | 10 01 52 |
| 10 02 42 | --- | 04 51 25 | 47.9 | 280.0 | 4.1 | | 52.2 | 50 | 45 | 10 01 53 |
| 10 03 02 | J0038+4137 | 04 51 45 | 47.3 | 281.0 | 4.2 | | 52.1 | 6 | 45 | 10 03 02 |
| 10 04 02 | =0035+413 | 04 52 45 | 47.1 | 281.2 | 4.2 | | 52.1 | 60 | 46 | 10 03 03 |
| 10 04 22 | J0038+4137 | 04 53 05 | 47.1 | 281.2 | 4.2 | | 52.1 | 14 | 46 | 10 04 22 |
| 10 05 02 | =0035+413 | 04 53 45 | 47.0 | 281.3 | 4.2 | | 52.0 | 40 | 46 | 10 04 23 |
| 10 05 22 | M31_MSR | 04 54 05 | 47.6 | 280.1 | 4.1 | | 52.0 | 5 | 46 | 10 05 22 |
| 10 08 02 | --- | 04 56 46 | 47.2 | 280.5 | 4.2 | | 51.9 | 160 | 49 | 10 05 23 |
| 10 08 22 | J0038+4137 | 04 57 06 | 46.5 | 281.9 | 4.3 | | 51.9 | 5 | 49 | 10 08 22 |
| 10 09 02 | =0035+413 | 04 57 46 | 46.4 | 282.0 | 4.3 | | 51.9 | 40 | 50 | 10 08 23 |

Schedule for TORUN (Code Tr ) Page 4

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Stop ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | |
| 10 09 22 | M31_MSR | 04 58 06 | 47.0 | 280.7 | 4.2 | | 51.9 | 5 | 50 | 10 09 22 |
| 10 12 02 | --- | 05 00 46 | 46.6 | 281.2 | 4.3 | | 51.7 | 160 | 52 | 10 09 23 |
| 10 12 22 | J0038+4137 | 05 01 06 | 45.9 | 282.6 | 4.4 | | 51.7 | 5 | 52 | 10 12 22 |
| 10 13 02 | =0035+413 | 05 01 46 | 45.8 | 282.7 | 4.4 | | 51.7 | 40 | 53 | 10 12 23 |
| 10 13 22 | M31_MSR | 05 02 06 | 46.4 | 281.4 | 4.3 | | 51.7 | 5 | 53 | 10 13 22 |
| 10 15 02 | --- | 05 03 47 | 46.2 | 281.7 | 4.3 | | 51.6 | 100 | 54 | 10 13 23 |
| 10 15 22 | J0042 | 05 04 07 | 46.0 | 282.1 | 4.3 | | 51.6 | 9 | 54 | 10 15 22 |
| 10 16 12 | --- | 05 04 57 | 45.9 | 282.3 | 4.4 | | 51.6 | 50 | 55 | 10 15 23 |
| 10 16 32 | J0038+4137 | 05 05 17 | 45.3 | 283.3 | 4.4 | | 51.5 | 6 | 55 | 10 16 32 |
| 10 17 32 | =0035+413 | 05 06 17 | 45.1 | 283.4 | 4.5 | | 51.5 | 60 | 56 | 10 16 33 |
| 10 17 52 | J0038+4137 | 05 06 37 | 45.1 | 283.5 | 4.5 | | 51.4 | 14 | 56 | 10 17 52 |
| 10 18 32 | =0035+413 | 05 07 17 | 45.0 | 283.6 | 4.5 | | 51.4 | 40 | 57 | 10 17 53 |
| 10 18 52 | M31_MSR | 05 07 37 | 45.6 | 282.3 | 4.4 | | 51.4 | 5 | 57 | 10 18 52 |
| 10 21 32 | --- | 05 10 18 | 45.2 | 282.8 | 4.4 | | 51.3 | 160 | 59 | 10 18 53 |
| 10 21 52 | J0038+4137 | 05 10 38 | 44.5 | 284.1 | 4.5 | | 51.2 | 5 | 59 | 10 21 52 |
| 10 22 32 | =0035+413 | 05 11 18 | 44.4 | 284.3 | 4.5 | | 51.2 | 40 | 60 | 10 21 53 |
| 10 22 52 | M31_MSR | 05 11 38 | 45.0 | 283.0 | 4.4 | | 51.3 | 5 | 60 | 10 22 52 |
| 10 25 32 | --- | 05 14 18 | 44.6 | 283.5 | 4.5 | | 51.1 | 160 | 62 | 10 22 53 |
| 10 25 52 | J0038+4137 | 05 14 39 | 43.9 | 284.8 | 4.6 | | 51.0 | 5 | 62 | 10 25 52 |
| 10 26 32 | =0035+413 | 05 15 19 | 43.8 | 284.9 | 4.6 | | 51.0 | 40 | 63 | 10 25 53 |
| 10 26 52 | M31_MSR | 05 15 39 | 44.4 | 283.7 | 4.5 | | 51.1 | 5 | 63 | 10 26 52 |
| 10 28 32 | --- | 05 17 19 | 44.2 | 284.0 | 4.5 | | 51.0 | 100 | 65 | 10 26 53 |
| 10 28 52 | J0042 | 05 17 39 | 44.0 | 284.4 | 4.6 | | 51.0 | 9 | 65 | 10 28 52 |
| 10 29 42 | --- | 05 18 29 | 43.9 | 284.5 | 4.6 | | 50.9 | 50 | 66 | 10 28 53 |
| 10 30 02 | J0038+4137 | 05 18 49 | 43.3 | 285.5 | 4.7 | | 50.8 | 6 | 66 | 10 30 02 |
| 10 31 02 | =0035+413 | 05 19 49 | 43.2 | 285.6 | 4.7 | | 50.7 | 60 | 67 | 10 30 03 |
| 10 31 22 | J0038+4137 | 05 20 09 | 43.1 | 285.7 | 4.7 | | 50.7 | 14 | 67 | 10 31 22 |
| 10 32 02 | =0035+413 | 05 20 50 | 43.0 | 285.8 | 4.7 | | 50.7 | 40 | 67 | 10 31 23 |
| 10 32 22 | M31_MSR | 05 21 10 | 43.6 | 284.6 | 4.6 | | 50.8 | 5 | 67 | 10 32 22 |
| 10 35 02 | --- | 05 23 50 | 43.3 | 285.0 | 4.6 | | 50.6 | 160 | 70 | 10 32 23 |
| 10 35 22 | J0038+4137 | 05 24 10 | 42.5 | 286.3 | 4.7 | | 50.5 | 5 | 70 | 10 35 22 |
| 10 36 02 | =0035+413 | 05 24 50 | 42.4 | 286.5 | 4.8 | | 50.5 | 40 | 70 | 10 35 23 |

Schedule for TORUN (Code Tr ) Page 5

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | |
| 10 36 22 | M31_MSR | 05 25 10 | 43.1 | 285.2 | 4.7 | | 50.6 | 5 | 70 | 10 36 22 |
| 10 39 02 | --- | 05 27 51 | 42.7 | 285.7 | 4.7 | | 50.4 | 160 | 73 | 10 36 23 |
| 10 39 22 | J0038+4137 | 05 28 11 | 42.0 | 287.0 | 4.8 | | 50.3 | 5 | 73 | 10 39 22 |
| 10 40 02 | =0035+413 | 05 28 51 | 41.9 | 287.1 | 4.8 | | 50.2 | 40 | 74 | 10 39 23 |
| 10 40 22 | M31_MSR | 05 29 11 | 42.5 | 285.9 | 4.7 | | 50.3 | 5 | 74 | 10 40 22 |
| 10 42 02 | --- | 05 30 51 | 42.2 | 286.2 | 4.8 | | 50.3 | 100 | 75 | 10 40 23 |
| 10 42 22 | J0042 | 05 31 11 | 42.1 | 286.6 | 4.8 | | 50.2 | 10 | 75 | 10 42 22 |
| 10 43 12 | --- | 05 32 01 | 41.9 | 286.7 | 4.8 | | 50.2 | 50 | 76 | 10 42 23 |
| 10 43 32 | J0038+4137 | 05 32 21 | 41.4 | 287.7 | 4.9 | | 50.0 | 6 | 76 | 10 43 32 |
| 10 44 32 | =0035+413 | 05 33 22 | 41.2 | 287.8 | 4.9 | | 50.0 | 60 | 77 | 10 43 33 |
| 10 44 52 | J0038+4137 | 05 33 42 | 41.2 | 287.9 | 4.9 | | 49.9 | 14 | 77 | 10 44 52 |
| 10 45 32 | =0035+413 | 05 34 22 | 41.1 | 288.0 | 4.9 | | 49.9 | 40 | 78 | 10 44 53 |
| 10 45 52 | M31_MSR | 05 34 42 | 41.7 | 286.8 | 4.8 | | 50.0 | 5 | 78 | 10 45 52 |
| 10 48 32 | --- | 05 37 22 | 41.3 | 287.2 | 4.9 | | 49.9 | 160 | 80 | 10 45 53 |
| 10 48 52 | J0038+4137 | 05 37 42 | 40.6 | 288.5 | 5.0 | | 49.7 | 5 | 80 | 10 48 52 |
| 10 49 32 | =0035+413 | 05 38 22 | 40.5 | 288.6 | 5.0 | | 49.6 | 40 | 81 | 10 48 53 |
| 10 49 52 | M31_MSR | 05 38 42 | 41.1 | 287.4 | 4.9 | | 49.8 | 5 | 81 | 10 49 52 |
| 10 52 32 | --- | 05 41 23 | 40.7 | 287.9 | 4.9 | | 49.6 | 160 | 83 | 10 49 53 |
| 10 52 52 | J0038+4137 | 05 41 43 | 40.0 | 289.2 | 5.0 | | 49.4 | 5 | 83 | 10 52 52 |
| 10 53 32 | =0035+413 | 05 42 23 | 39.9 | 289.3 | 5.1 | | 49.4 | 40 | 84 | 10 52 53 |
| 10 53 52 | M31_MSR | 05 42 43 | 40.5 | 288.1 | 5.0 | | 49.6 | 5 | 84 | 10 53 52 |
| 10 55 32 | --- | 05 44 23 | 40.3 | 288.3 | 5.0 | | 49.5 | 100 | 86 | 10 53 53 |
| 10 55 52 | J0042 | 05 44 43 | 40.1 | 288.7 | 5.0 | | 49.4 | 10 | 86 | 10 55 52 |
| 10 56 42 | --- | 05 45 34 | 40.0 | 288.9 | 5.0 | | 49.4 | 50 | 86 | 10 55 53 |
| 10 57 02 | J0038+4137 | 05 45 54 | 39.4 | 289.8 | 5.1 | | 49.2 | 7 | 86 | 10 57 02 |
| 10 58 02 | =0035+413 | 05 46 54 | 39.3 | 290.0 | 5.1 | | 49.1 | 60 | 87 | 10 57 03 |
| 10 58 22 | J0038+4137 | 05 47 14 | 39.3 | 290.0 | 5.1 | | 49.1 | 14 | 87 | 10 58 22 |
| 10 59 02 | =0035+413 | 05 47 54 | 39.2 | 290.1 | 5.1 | | 49.0 | 40 | 88 | 10 58 23 |
| 10 59 22 | M31_MSR | 05 48 14 | 39.8 | 289.0 | 5.1 | | 49.2 | 5 | 88 | 10 59 22 |
| 11 02 02 | --- | 05 50 54 | 39.4 | 289.4 | 5.1 | | 49.0 | 160 | 91 | 10 59 23 |
| 11 02 22 | J0038+4137 | 05 51 14 | 38.7 | 290.7 | 5.2 | | 48.8 | 5 | 91 | 11 02 22 |
| 11 03 02 | =0035+413 | 05 51 55 | 38.6 | 290.8 | 5.2 | | 48.8 | 40 | 91 | 11 02 23 |

Schedule for TORUN (Code Tr ) Page 6

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | |
| 11 03 22 | M31_MSR | 05 52 15 | 39.2 | 289.6 | 5.1 | | 49.0 | 5 | 91 | 11 03 22 |
| 11 06 02 | --- | 05 54 55 | 38.8 | 290.0 | 5.2 | | 48.8 | 160 | 94 | 11 03 23 |
| 11 06 22 | J0038+4137 | 05 55 15 | 38.1 | 291.3 | 5.3 | | 48.5 | 5 | 94 | 11 06 22 |
| 11 07 02 | =0035+413 | 05 55 55 | 38.0 | 291.4 | 5.3 | | 48.5 | 40 | 94 | 11 06 23 |
| 11 07 22 | M31_MSR | 05 56 15 | 38.6 | 290.2 | 5.2 | | 48.7 | 5 | 94 | 11 07 22 |
| 11 09 02 | --- | 05 57 56 | 38.4 | 290.5 | 5.2 | | 48.6 | 100 | 96 | 11 07 23 |
| 11 09 22 | J0042 | 05 58 16 | 38.2 | 290.9 | 5.2 | | 48.5 | 10 | 96 | 11 09 22 |
| 11 10 12 | --- | 05 59 06 | 38.1 | 291.0 | 5.3 | | 48.5 | 50 | 97 | 11 09 23 |
| 11 10 32 | J0038+4137 | 05 59 26 | 37.5 | 291.9 | 5.3 | | 48.2 | 7 | 97 | 11 10 32 |
| 11 11 32 | =0035+413 | 06 00 26 | 37.4 | 292.1 | 5.4 | | 48.2 | 60 | 98 | 11 10 33 |
| 11 11 52 | J0038+4137 | 06 00 46 | 37.4 | 292.2 | 5.4 | | 48.1 | 14 | 98 | 11 11 52 |
| 11 12 32 | =0035+413 | 06 01 26 | 37.3 | 292.3 | 5.4 | | 48.1 | 40 | 98 | 11 11 53 |
| 11 12 52 | M31_MSR | 06 01 46 | 37.8 | 291.1 | 5.3 | | 48.3 | 5 | 98 | 11 12 52 |
| 11 15 32 | --- | 06 04 27 | 37.5 | 291.5 | 5.3 | | 48.1 | 160 | 101 | 11 12 53 |
| 11 15 52 | J0038+4137 | 06 04 47 | 36.8 | 292.8 | 5.4 | | 47.9 | 5 | 101 | 11 15 52 |
| 11 16 32 | =0035+413 | 06 05 27 | 36.7 | 292.9 | 5.4 | | 47.8 | 40 | 102 | 11 15 53 |
| 11 16 52 | M31_MSR | 06 05 47 | 37.3 | 291.7 | 5.3 | | 48.0 | 5 | 102 | 11 16 52 |
| 11 19 32 | --- | 06 08 27 | 36.9 | 292.2 | 5.4 | | 47.9 | 160 | 104 | 11 16 53 |
| 11 19 52 | J0038+4137 | 06 08 47 | 36.2 | 293.4 | 5.5 | | 47.6 | 5 | 104 | 11 19 52 |
| 11 20 32 | =0035+413 | 06 09 27 | 36.2 | 293.5 | 5.5 | | 47.5 | 40 | 105 | 11 19 53 |
| 11 20 52 | M31_MSR | 06 09 48 | 36.7 | 292.4 | 5.4 | | 47.8 | 5 | 105 | 11 20 52 |
| 11 22 32 | --- | 06 11 28 | 36.5 | 292.6 | 5.4 | | 47.6 | 100 | 106 | 11 20 53 |
| 11 22 52 | J0042 | 06 11 48 | 36.3 | 293.0 | 5.5 | | 47.6 | 10 | 106 | 11 22 52 |
| 11 23 42 | --- | 06 12 38 | 36.2 | 293.2 | 5.5 | | 47.5 | 50 | 107 | 11 22 53 |
| 11 24 02 | J0038+4137 | 06 12 58 | 35.7 | 294.1 | 5.6 | | 47.2 | 7 | 107 | 11 24 02 |
| 11 25 02 | =0035+413 | 06 13 58 | 35.5 | 294.2 | 5.6 | | 47.2 | 60 | 108 | 11 24 03 |
| 11 25 22 | J0038+4137 | 06 14 18 | 35.5 | 294.3 | 5.6 | | 47.1 | 14 | 108 | 11 25 22 |
| 11 26 02 | =0035+413 | 06 14 58 | 35.4 | 294.4 | 5.6 | | 47.1 | 40 | 109 | 11 25 23 |
| 11 26 22 | M31_MSR | 06 15 18 | 36.0 | 293.2 | 5.5 | | 47.4 | 5 | 109 | 11 26 22 |
| 11 29 02 | --- | 06 17 59 | 35.6 | 293.7 | 5.5 | | 47.2 | 160 | 111 | 11 26 23 |

Schedule for TORUN (Code Tr ) Page 7

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | |
| 11 29 22 | J0038+4137 | 06 18 19 | 34.9 | 294.9 | 5.7 | | 46.8 | 5 | 111 | 11 29 22 |
| 11 30 02 | =0035+413 | 06 18 59 | 34.8 | 295.0 | 5.7 | | 46.8 | 40 | 112 | 11 29 23 |
| 11 30 22 | M31_MSR | 06 19 19 | 35.4 | 293.9 | 5.6 | | 47.1 | 5 | 112 | 11 30 22 |
| 11 33 02 | --- | 06 22 00 | 35.0 | 294.3 | 5.6 | | 46.9 | 160 | 115 | 11 30 23 |
| 11 33 22 | J0038+4137 | 06 22 20 | 34.4 | 295.5 | 5.7 | | 46.5 | 5 | 115 | 11 33 22 |
| 11 34 02 | =0035+413 | 06 23 00 | 34.3 | 295.6 | 5.7 | | 46.5 | 40 | 115 | 11 33 23 |
| 11 34 22 | M31_MSR | 06 23 20 | 34.9 | 294.5 | 5.6 | | 46.8 | 5 | 115 | 11 34 22 |
| 11 36 02 | --- | 06 25 00 | 34.6 | 294.8 | 5.7 | | 46.6 | 100 | 117 | 11 34 23 |
| 11 36 22 | J0042 | 06 25 20 | 34.5 | 295.1 | 5.7 | | 46.6 | 10 | 117 | 11 36 22 |
| 11 37 12 | --- | 06 26 10 | 34.4 | 295.3 | 5.7 | | 46.5 | 50 | 118 | 11 36 23 |
| 11 37 32 | J0038+4137 | 06 26 30 | 33.8 | 296.2 | 5.8 | | 46.2 | 7 | 118 | 11 37 32 |
| 11 38 32 | =0035+413 | 06 27 30 | 33.7 | 296.3 | 5.8 | | 46.1 | 60 | 119 | 11 37 33 |
| 11 38 52 | J0038+4137 | 06 27 50 | 33.7 | 296.4 | 5.8 | | 46.1 | 14 | 119 | 11 38 52 |
| 11 39 32 | =0035+413 | 06 28 31 | 33.6 | 296.5 | 5.8 | | 46.0 | 40 | 119 | 11 38 53 |
| 11 39 52 | M31_MSR | 06 28 51 | 34.1 | 295.4 | 5.7 | | 46.3 | 5 | 119 | 11 39 52 |
| 11 42 32 | --- | 06 31 31 | 33.7 | 295.8 | 5.8 | | 46.1 | 160 | 122 | 11 39 53 |
| 11 42 52 | J0038+4137 | 06 31 51 | 33.1 | 297.0 | 5.9 | | 45.8 | 5 | 122 | 11 42 52 |
| 11 43 32 | =0035+413 | 06 32 31 | 33.0 | 297.1 | 5.9 | | 45.7 | 40 | 122 | 11 42 53 |
| 11 43 52 | M31_MSR | 06 32 51 | 33.6 | 296.0 | 5.8 | | 46.0 | 5 | 122 | 11 43 52 |
| 11 46 32 | --- | 06 35 32 | 33.2 | 296.4 | 5.8 | | 45.8 | 160 | 125 | 11 43 53 |
| 11 46 52 | J0038+4137 | 06 35 52 | 32.6 | 297.6 | 5.9 | | 45.4 | 5 | 125 | 11 46 52 |
| 11 47 32 | =0035+413 | 06 36 32 | 32.5 | 297.7 | 6.0 | | 45.4 | 40 | 126 | 11 46 53 |
| 11 47 52 | M31_MSR | 06 36 52 | 33.0 | 296.6 | 5.9 | | 45.7 | 5 | 126 | 11 47 52 |
| 11 49 32 | --- | 06 38 32 | 32.8 | 296.9 | 5.9 | | 45.6 | 100 | 127 | 11 47 53 |
| 11 49 52 | J0042 | 06 38 52 | 32.6 | 297.2 | 5.9 | | 45.5 | 10 | 127 | 11 49 52 |
| 11 50 42 | --- | 06 39 42 | 32.5 | 297.4 | 5.9 | | 45.4 | 50 | 128 | 11 49 53 |
| 11 51 02 | J0038+4137 | 06 40 02 | 32.0 | 298.3 | 6.0 | | 45.1 | 7 | 128 | 11 51 02 |
| 11 52 02 | =0035+413 | 06 41 03 | 31.9 | 298.4 | 6.0 | | 45.0 | 60 | 129 | 11 51 03 |
| 11 52 22 | J0038+4137 | 06 41 23 | 31.8 | 298.5 | 6.0 | | 45.0 | 14 | 129 | 11 52 22 |
| 11 53 02 | =0035+413 | 06 42 03 | 31.8 | 298.6 | 6.0 | | 44.9 | 40 | 130 | 11 52 23 |

Schedule for TORUN (Code Tr ) Page 8

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Stop ParA | Early / Dwell | Disk GBytes | TPStart / SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | |
| 11 54 02 | 3C84 | 06 43 03 | 54.7 | 271.8 | 3.4 | | 53.3 | -39 | 130 | 11 54 02 |
| 11 56 02 | --- | 06 45 03 | 54.4 | 272.2 | 3.4 | | 53.3 | 81 | 132 | 11 54 03 |
| 11 56 22 | 3C84 | 06 45 23 | 54.3 | 272.3 | 3.4 | | 53.3 | 14 | 132 | 11 56 22 |
| 11 59 22 | --- | 06 48 24 | 53.9 | 272.8 | 3.5 | | 53.3 | 180 | 134 | 11 56 23 |
| 11 59 42 | M31_MSR | 06 48 44 | 31.4 | 298.5 | 6.1 | | 44.7 | -79 | 134 | 11 59 42 |
| 12 02 22 | --- | 06 51 24 | 31.1 | 298.9 | 6.1 | | 44.5 | 81 | 137 | 11 59 43 |
| 12 02 42 | J0038+4137 | 06 51 44 | 30.5 | 300.1 | 6.2 | | 44.1 | 5 | 137 | 12 02 42 |
| 12 03 22 | =0035+413 | 06 52 25 | 30.4 | 300.2 | 6.2 | | 44.0 | 40 | 138 | 12 02 43 |
| 12 03 42 | M31_MSR | 06 52 45 | 30.9 | 299.1 | 6.1 | | 44.4 | 5 | 138 | 12 03 42 |
| 12 06 22 | --- | 06 55 25 | 30.6 | 299.5 | 6.2 | | 44.2 | 160 | 140 | 12 03 43 |
| 12 06 42 | J0038+4137 | 06 55 45 | 30.0 | 300.7 | 6.3 | | 43.7 | 5 | 140 | 12 06 42 |
| 12 07 22 | =0035+413 | 06 56 25 | 29.9 | 300.8 | 6.3 | | 43.7 | 40 | 141 | 12 06 43 |
| 12 07 42 | M31_MSR | 06 56 45 | 30.4 | 299.7 | 6.2 | | 44.0 | 5 | 141 | 12 07 42 |
| 12 09 22 | --- | 06 58 26 | 30.2 | 300.0 | 6.2 | | 43.9 | 100 | 142 | 12 07 43 |
| 12 09 42 | J0042 | 06 58 46 | 30.0 | 300.3 | 6.3 | | 43.8 | 10 | 142 | 12 09 42 |
| 12 10 32 | --- | 06 59 36 | 29.9 | 300.5 | 6.3 | | 43.7 | 50 | 143 | 12 09 43 |
| 12 10 52 | J0038+4137 | 06 59 56 | 29.4 | 301.4 | 6.3 | | 43.4 | 7 | 143 | 12 10 52 |
| 12 11 52 | =0035+413 | 07 00 56 | 29.3 | 301.5 | 6.4 | | 43.3 | 60 | 144 | 12 10 53 |
| 12 12 12 | J0038+4137 | 07 01 16 | 29.3 | 301.6 | 6.4 | | 43.2 | 14 | 144 | 12 12 12 |
| 12 12 52 | =0035+413 | 07 01 56 | 29.2 | 301.7 | 6.4 | | 43.2 | 40 | 145 | 12 12 13 |
| 12 13 12 | M31_MSR | 07 02 16 | 29.7 | 300.6 | 6.3 | | 43.6 | 5 | 145 | 12 13 12 |
| 12 15 52 | --- | 07 04 57 | 29.3 | 301.0 | 6.3 | | 43.3 | 160 | 147 | 12 13 13 |
| 12 16 12 | J0038+4137 | 07 05 17 | 28.8 | 302.2 | 6.4 | | 42.9 | 5 | 147 | 12 16 12 |
| 12 16 52 | =0035+413 | 07 05 57 | 28.7 | 302.3 | 6.4 | | 42.8 | 40 | 148 | 12 16 13 |
| 12 17 12 | M31_MSR | 07 06 17 | 29.2 | 301.2 | 6.4 | | 43.2 | 6 | 148 | 12 17 12 |
| 12 19 52 | --- | 07 08 57 | 28.8 | 301.6 | 6.4 | | 43.0 | 160 | 151 | 12 17 13 |
| 12 20 12 | J0038+4137 | 07 09 17 | 28.2 | 302.8 | 6.5 | | 42.5 | 5 | 151 | 12 20 12 |
| 12 20 52 | =0035+413 | 07 09 57 | 28.2 | 302.9 | 6.5 | | 42.5 | 40 | 151 | 12 20 13 |
| 12 21 12 | M31_MSR | 07 10 17 | 28.6 | 301.8 | 6.4 | | 42.9 | 6 | 151 | 12 21 12 |
| 12 22 52 | --- | 07 11 58 | 28.4 | 302.1 | 6.4 | | 42.7 | 100 | 153 | 12 21 13 |

Schedule for TORUN (Code Tr ) Page 9

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | |
| 12 23 12 | J0042 | 07 12 18 | 28.3 | 302.5 | 6.5 | | 42.6 | 10 | 153 | 12 23 12 |
| 12 24 02 | --- | 07 13 08 | 28.2 | 302.6 | 6.5 | | 42.5 | 50 | 154 | 12 23 13 |
| 12 24 22 | J0038+4137 | 07 13 28 | 27.7 | 303.5 | 6.6 | | 42.1 | 7 | 154 | 12 24 22 |
| 12 25 22 | =0035+413 | 07 14 28 | 27.6 | 303.6 | 6.6 | | 42.0 | 60 | 155 | 12 24 23 |
| 12 25 42 | J0038+4137 | 07 14 48 | 27.6 | 303.7 | 6.6 | | 42.0 | 14 | 155 | 12 25 42 |
| 12 26 22 | =0035+413 | 07 15 28 | 27.5 | 303.8 | 6.6 | | 41.9 | 40 | 155 | 12 25 43 |
| 12 26 42 | M31_MSR | 07 15 48 | 27.9 | 302.7 | 6.5 | | 42.4 | 6 | 155 | 12 26 42 |
| 12 29 22 | --- | 07 18 29 | 27.6 | 303.1 | 6.6 | | 42.1 | 160 | 158 | 12 26 43 |
| 12 29 42 | J0038+4137 | 07 18 49 | 27.1 | 304.3 | 6.7 | | 41.6 | 5 | 158 | 12 29 42 |
| 12 30 22 | =0035+413 | 07 19 29 | 27.0 | 304.4 | 6.7 | | 41.6 | 40 | 158 | 12 29 43 |
| 12 30 42 | M31_MSR | 07 19 49 | 27.4 | 303.3 | 6.6 | | 42.0 | 6 | 158 | 12 30 42 |
| 12 33 22 | --- | 07 22 29 | 27.1 | 303.7 | 6.6 | | 41.7 | 160 | 161 | 12 30 43 |
| 12 33 42 | J0038+4137 | 07 22 50 | 26.6 | 304.9 | 6.7 | | 41.2 | 5 | 161 | 12 33 42 |
| 12 34 22 | =0035+413 | 07 23 30 | 26.5 | 305.0 | 6.7 | | 41.2 | 40 | 162 | 12 33 43 |
| 12 34 42 | M31_MSR | 07 23 50 | 26.9 | 304.0 | 6.6 | | 41.6 | 6 | 162 | 12 34 42 |
| 12 36 22 | --- | 07 25 30 | 26.7 | 304.2 | 6.7 | | 41.4 | 100 | 163 | 12 34 43 |
| 12 36 42 | J0042 | 07 25 50 | 26.6 | 304.6 | 6.7 | | 41.3 | 10 | 163 | 12 36 42 |
| 12 37 32 | --- | 07 26 40 | 26.5 | 304.7 | 6.7 | | 41.2 | 50 | 164 | 12 36 43 |
| 12 37 52 | J0038+4137 | 07 27 00 | 26.0 | 305.6 | 6.8 | | 40.8 | 7 | 164 | 12 37 52 |
| 12 38 52 | =0035+413 | 07 28 00 | 25.9 | 305.8 | 6.8 | | 40.7 | 60 | 165 | 12 37 53 |
| 12 39 12 | J0038+4137 | 07 28 20 | 25.9 | 305.8 | 6.8 | | 40.7 | 14 | 165 | 12 39 12 |
| 12 39 52 | =0035+413 | 07 29 01 | 25.8 | 305.9 | 6.8 | | 40.6 | 40 | 166 | 12 39 13 |
| 12 40 12 | M31_MSR | 07 29 21 | 26.3 | 304.8 | 6.7 | | 41.1 | 6 | 166 | 12 40 12 |
| 12 42 52 | --- | 07 32 01 | 25.9 | 305.2 | 6.8 | | 40.8 | 160 | 168 | 12 40 13 |
| 12 43 12 | J0038+4137 | 07 32 21 | 25.4 | 306.4 | 6.9 | | 40.3 | 5 | 168 | 12 43 12 |
| 12 43 52 | =0035+413 | 07 33 01 | 25.3 | 306.5 | 6.9 | | 40.2 | 40 | 169 | 12 43 13 |
| 12 44 12 | M31_MSR | 07 33 21 | 25.8 | 305.5 | 6.8 | | 40.7 | 6 | 169 | 12 44 12 |
| 12 46 52 | --- | 07 36 02 | 25.4 | 305.9 | 6.8 | | 40.4 | 160 | 171 | 12 44 13 |
| 12 47 12 | J0038+4137 | 07 36 22 | 24.9 | 307.1 | 7.0 | | 39.9 | 5 | 171 | 12 47 12 |
| 12 47 52 | =0035+413 | 07 37 02 | 24.8 | 307.2 | 7.0 | | 39.8 | 40 | 172 | 12 47 13 |

Schedule for TORUN (Code Tr ) Page 10

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | |
| 12 48 12 | M31_MSR | 07 37 22 | 25.3 | 306.1 | 6.9 | | 40.3 | 6 | 172 | 12 48 12 |
| 12 49 52 | --- | 07 39 02 | 25.1 | 306.4 | 6.9 | | 40.1 | 100 | 174 | 12 48 13 |
| 12 50 12 | J0042 | 07 39 22 | 25.0 | 306.7 | 6.9 | | 40.0 | 10 | 174 | 12 50 12 |
| 12 51 02 | --- | 07 40 12 | 24.9 | 306.9 | 6.9 | | 39.9 | 50 | 175 | 12 50 13 |
| 12 51 22 | J0038+4137 | 07 40 32 | 24.4 | 307.7 | 7.0 | | 39.5 | 7 | 175 | 12 51 22 |
| 12 52 22 | =0035+413 | 07 41 33 | 24.3 | 307.9 | 7.0 | | 39.4 | 60 | 175 | 12 51 23 |
| 12 52 42 | J0038+4137 | 07 41 53 | 24.3 | 307.9 | 7.0 | | 39.4 | 14 | 175 | 12 52 42 |
| 12 53 22 | =0035+413 | 07 42 33 | 24.2 | 308.1 | 7.1 | | 39.3 | 40 | 176 | 12 52 43 |
| 12 53 42 | M31_MSR | 07 42 53 | 24.6 | 307.0 | 7.0 | | 39.8 | 6 | 176 | 12 53 42 |
| 12 56 22 | --- | 07 45 33 | 24.3 | 307.4 | 7.0 | | 39.5 | 160 | 179 | 12 53 43 |
| 12 56 42 | J0038+4137 | 07 45 53 | 23.8 | 308.6 | 7.1 | | 38.9 | 5 | 179 | 12 56 42 |
| 12 57 22 | =0035+413 | 07 46 33 | 23.7 | 308.7 | 7.1 | | 38.9 | 40 | 179 | 12 56 43 |
| 12 57 42 | M31_MSR | 07 46 53 | 24.1 | 307.6 | 7.0 | | 39.4 | 6 | 179 | 12 57 42 |
| 13 00 22 | --- | 07 49 34 | 23.8 | 308.0 | 7.1 | | 39.1 | 160 | 182 | 12 57 43 |
| 13 00 42 | J0038+4137 | 07 49 54 | 23.3 | 309.2 | 7.2 | | 38.5 | 5 | 182 | 13 00 42 |
| 13 01 22 | =0035+413 | 07 50 34 | 23.2 | 309.3 | 7.2 | | 38.5 | 40 | 183 | 13 00 43 |
| 13 01 42 | M31_MSR | 07 50 54 | 23.7 | 308.2 | 7.1 | | 39.0 | 6 | 183 | 13 01 42 |
| 13 03 22 | --- | 07 52 34 | 23.5 | 308.5 | 7.1 | | 38.8 | 100 | 184 | 13 01 43 |
| 13 03 42 | J0042 | 07 52 54 | 23.3 | 308.9 | 7.2 | | 38.6 | 10 | 184 | 13 03 42 |
| 13 04 32 | --- | 07 53 45 | 23.2 | 309.0 | 7.2 | | 38.6 | 50 | 185 | 13 03 43 |
| 13 04 52 | J0038+4137 | 07 54 05 | 22.8 | 309.9 | 7.2 | | 38.1 | 7 | 185 | 13 04 52 |
| 13 05 52 | =0035+413 | 07 55 05 | 22.7 | 310.0 | 7.3 | | 38.0 | 60 | 186 | 13 04 53 |
| 13 06 12 | J0038+4137 | 07 55 25 | 22.7 | 310.1 | 7.3 | | 38.0 | 14 | 186 | 13 06 12 |
| 13 06 52 | =0035+413 | 07 56 05 | 22.6 | 310.2 | 7.3 | | 37.9 | 40 | 187 | 13 06 13 |
| 13 07 12 | M31_MSR | 07 56 25 | 23.0 | 309.1 | 7.2 | | 38.4 | 6 | 187 | 13 07 12 |
| 13 09 52 | --- | 07 59 05 | 22.7 | 309.5 | 7.2 | | 38.1 | 160 | 189 | 13 07 13 |
| 13 10 12 | J0038+4137 | 07 59 25 | 22.2 | 310.7 | 7.3 | | 37.5 | 5 | 189 | 13 10 12 |
| 13 10 52 | =0035+413 | 08 00 06 | 22.1 | 310.8 | 7.3 | | 37.5 | 40 | 190 | 13 10 13 |
| 13 11 12 | M31_MSR | 08 00 26 | 22.5 | 309.8 | 7.3 | | 38.0 | 6 | 190 | 13 11 12 |
| 13 13 52 | --- | 08 03 06 | 22.2 | 310.2 | 7.3 | | 37.7 | 160 | 192 | 13 11 13 |

Schedule for TORUN (Code Tr ) Page 11

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | |
| 13 14 12 | J0038+4137 | 08 03 26 | 21.8 | 311.4 | 7.4 | | 37.1 | 5 | 192 | 13 14 12 |
| 13 14 52 | =0035+413 | 08 04 06 | 21.7 | 311.5 | 7.4 | | 37.0 | 40 | 193 | 13 14 13 |
| 13 15 12 | M31_MSR | 08 04 26 | 22.1 | 310.4 | 7.3 | | 37.6 | 6 | 193 | 13 15 12 |
| 13 16 52 | --- | 08 06 07 | 21.9 | 310.7 | 7.3 | | 37.4 | 100 | 195 | 13 15 13 |
| 13 17 12 | J0042 | 08 06 27 | 21.8 | 311.0 | 7.4 | | 37.2 | 10 | 195 | 13 17 12 |
| 13 18 02 | --- | 08 07 17 | 21.7 | 311.2 | 7.4 | | 37.1 | 50 | 195 | 13 17 13 |
| 13 18 22 | J0038+4137 | 08 07 37 | 21.3 | 312.1 | 7.5 | | 36.7 | 7 | 195 | 13 18 22 |
| 13 19 22 | =0035+413 | 08 08 37 | 21.2 | 312.2 | 7.5 | | 36.6 | 60 | 196 | 13 18 23 |
| 13 19 42 | J0038+4137 | 08 08 57 | 21.1 | 312.3 | 7.5 | | 36.5 | 14 | 196 | 13 19 42 |
| 13 20 22 | =0035+413 | 08 09 37 | 21.1 | 312.4 | 7.5 | | 36.4 | 40 | 197 | 13 19 43 |
| 13 20 42 | M31_MSR | 08 09 57 | 21.5 | 311.3 | 7.4 | | 37.0 | 6 | 197 | 13 20 42 |
| 13 23 22 | --- | 08 12 38 | 21.2 | 311.7 | 7.5 | | 36.7 | 160 | 200 | 13 20 43 |
| 13 23 42 | J0038+4137 | 08 12 58 | 20.7 | 312.9 | 7.6 | | 36.1 | 5 | 200 | 13 23 42 |
| 13 24 22 | =0035+413 | 08 13 38 | 20.6 | 313.0 | 7.6 | | 36.0 | 40 | 200 | 13 23 43 |
| 13 24 42 | M31_MSR | 08 13 58 | 21.0 | 311.9 | 7.5 | | 36.6 | 6 | 200 | 13 24 42 |
| 13 27 22 | --- | 08 16 38 | 20.7 | 312.4 | 7.5 | | 36.3 | 160 | 203 | 13 24 43 |
| 13 27 42 | J0038+4137 | 08 16 58 | 20.3 | 313.6 | 7.6 | | 35.6 | 5 | 203 | 13 27 42 |
| 13 28 22 | =0035+413 | 08 17 38 | 20.2 | 313.7 | 7.6 | | 35.6 | 40 | 203 | 13 27 43 |
| 13 28 42 | M31_MSR | 08 17 59 | 20.6 | 312.6 | 7.5 | | 36.1 | 6 | 203 | 13 28 42 |
| 13 30 22 | --- | 08 19 39 | 20.4 | 312.9 | 7.6 | | 35.9 | 100 | 205 | 13 28 43 |
| 13 30 42 | J0042 | 08 19 59 | 20.3 | 313.2 | 7.6 | | 35.8 | 10 | 205 | 13 30 42 |
| 13 31 32 | --- | 08 20 49 | 20.2 | 313.4 | 7.6 | | 35.7 | 50 | 206 | 13 30 43 |
| 13 31 52 | J0038+4137 | 08 21 09 | 19.8 | 314.2 | 7.7 | | 35.2 | 7 | 206 | 13 31 52 |
| 13 32 52 | =0035+413 | 08 22 09 | 19.7 | 314.4 | 7.7 | | 35.1 | 60 | 207 | 13 31 53 |
| 13 33 12 | J0038+4137 | 08 22 29 | 19.7 | 314.5 | 7.7 | | 35.0 | 14 | 207 | 13 33 12 |
| 13 33 52 | =0035+413 | 08 23 09 | 19.6 | 314.6 | 7.7 | | 35.0 | 40 | 207 | 13 33 13 |
| 13 34 12 | M31_MSR | 08 23 29 | 20.0 | 313.5 | 7.6 | | 35.5 | 6 | 207 | 13 34 12 |
| 13 36 52 | --- | 08 26 10 | 19.7 | 313.9 | 7.7 | | 35.2 | 160 | 210 | 13 34 13 |
| 13 37 12 | J0038+4137 | 08 26 30 | 19.2 | 315.1 | 7.8 | | 34.6 | 5 | 210 | 13 37 12 |
| 13 37 52 | =0035+413 | 08 27 10 | 19.2 | 315.2 | 7.8 | | 34.5 | 40 | 211 | 13 37 13 |
| 13 38 12 | M31_MSR | 08 27 30 | 19.5 | 314.1 | 7.7 | | 35.1 | 6 | 211 | 13 38 12 |
| 13 40 52 | --- | 08 30 11 | 19.2 | 314.6 | 7.8 | | 34.8 | 160 | 213 | 13 38 13 |

Schedule for TORUN (Code Tr ) Page 12

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | |
| 13 41 12 | J0038+4137 | 08 30 31 | 18.8 | 315.8 | 7.9 | | 34.1 | 5 | 213 | 13 41 12 |
| 13 41 52 | =0035+413 | 08 31 11 | 18.7 | 315.9 | 7.9 | | 34.1 | 40 | 214 | 13 41 13 |
| 13 42 12 | M31_MSR | 08 31 31 | 19.1 | 314.8 | 7.8 | | 34.6 | 6 | 214 | 13 42 12 |
| 13 43 52 | --- | 08 33 11 | 18.9 | 315.1 | 7.8 | | 34.4 | 100 | 215 | 13 42 13 |
| 13 44 12 | J0042 | 08 33 31 | 18.8 | 315.4 | 7.8 | | 34.3 | 10 | 215 | 13 44 12 |
| 13 45 02 | --- | 08 34 21 | 18.7 | 315.6 | 7.8 | | 34.2 | 50 | 216 | 13 44 13 |
| 13 45 22 | J0038+4137 | 08 34 41 | 18.4 | 316.4 | 7.9 | | 33.7 | 7 | 216 | 13 45 22 |
| 13 46 22 | =0035+413 | 08 35 41 | 18.3 | 316.6 | 7.9 | | 33.5 | 60 | 217 | 13 45 23 |
| 13 46 42 | J0038+4137 | 08 36 01 | 18.2 | 316.7 | 7.9 | | 33.5 | 14 | 217 | 13 46 42 |
| 13 47 22 | =0035+413 | 08 36 42 | 18.2 | 316.8 | 8.0 | | 33.4 | 40 | 218 | 13 46 43 |
| 13 47 42 | M31_MSR | 08 37 02 | 18.5 | 315.7 | 7.9 | | 34.0 | 6 | 218 | 13 47 42 |
| 13 50 22 | --- | 08 39 42 | 18.2 | 316.1 | 7.9 | | 33.7 | 160 | 220 | 13 47 43 |
| 13 50 42 | J0038+4137 | 08 40 02 | 17.8 | 317.3 | 8.0 | | 33.0 | 5 | 220 | 13 50 42 |
| 13 51 22 | =0035+413 | 08 40 42 | 17.8 | 317.4 | 8.0 | | 33.0 | 40 | 221 | 13 50 43 |
| 13 51 42 | M31_MSR | 08 41 02 | 18.1 | 316.3 | 7.9 | | 33.5 | 6 | 221 | 13 51 42 |
| 13 54 22 | --- | 08 43 43 | 17.8 | 316.8 | 8.0 | | 33.2 | 160 | 224 | 13 51 43 |
| 13 54 42 | J0038+4137 | 08 44 03 | 17.4 | 318.0 | 8.1 | | 32.6 | 5 | 224 | 13 54 42 |
| 13 55 22 | =0035+413 | 08 44 43 | 17.4 | 318.1 | 8.1 | | 32.5 | 40 | 224 | 13 54 43 |
| 13 55 42 | M31_MSR | 08 45 03 | 17.7 | 317.0 | 8.0 | | 33.1 | 6 | 224 | 13 55 42 |
| 13 57 22 | --- | 08 46 43 | 17.5 | 317.3 | 8.0 | | 32.9 | 100 | 226 | 13 55 43 |
| 13 57 42 | J0042 | 08 47 03 | 17.4 | 317.6 | 8.1 | | 32.7 | 10 | 226 | 13 57 42 |
| 13 58 32 | --- | 08 47 53 | 17.3 | 317.8 | 8.1 | | 32.6 | 50 | 227 | 13 57 43 |
| 13 58 52 | J0038+4137 | 08 48 13 | 17.0 | 318.7 | 8.2 | | 32.1 | 7 | 227 | 13 58 52 |
| 13 59 52 | =0035+413 | 08 49 14 | 16.9 | 318.8 | 8.2 | | 32.0 | 60 | 228 | 13 58 53 |
| 14 00 12 | J0038+4137 | 08 49 34 | 16.9 | 318.9 | 8.2 | | 31.9 | 14 | 228 | 14 00 12 |
| 14 00 52 | =0035+413 | 08 50 14 | 16.8 | 319.0 | 8.2 | | 31.8 | 40 | 228 | 14 00 13 |
| 14 00 52 | J0038+4137 | 08 50 14 | 16.8 | 319.0 | 8.2 | | 31.8 | -5 | 228 | No stop |
| 14 01 52 | =0035+413 | 08 51 14 | 16.7 | 319.2 | 8.2 | | 31.7 | 55 | 229 | 14 00 53 |
| 14 02 12 | M31_MSR | 08 51 34 | 17.0 | 318.1 | 8.1 | | 32.3 | 6 | 229 | 14 02 12 |
| 14 04 52 | --- | 08 54 14 | 16.8 | 318.5 | 8.2 | | 32.0 | 160 | 232 | 14 02 13 |
| 14 05 12 | J0038+4137 | 08 54 35 | 16.4 | 319.7 | 8.3 | | 31.3 | 5 | 232 | 14 05 12 |
| 14 05 59 | =0035+413 | 08 55 22 | 16.3 | 319.9 | 8.3 | | 31.2 | 47 | 232 | 14 05 13 |

Schedule for TORUN (Code Tr ) Page 13

Methanol in M31

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | |
| 14 06 19 | M31_MSR | 08 55 42 | 16.6 | 318.8 | 8.2 | | 31.8 | 6 | 232 | 14 06 19 |
| 14 08 59 | --- | 08 58 22 | 16.3 | 319.2 | 8.2 | | 31.5 | 160 | 235 | 14 06 20 |
| 14 09 19 | J0038+4137 | 08 58 42 | 16.0 | 320.4 | 8.3 | | 30.8 | 5 | 235 | 14 09 19 |
| 14 10 06 | =0035+413 | 08 59 29 | 15.9 | 320.5 | 8.3 | | 30.7 | 47 | 236 | 14 09 20 |
| 14 10 26 | 3C48 | 08 59 49 | 15.3 | 305.6 | 7.4 | | 35.7 | -25 | 236 | 14 10 26 |
| 14 14 26 | --- | 09 03 50 | 14.8 | 306.3 | 7.4 | | 35.3 | 215 | 240 | 14 10 27 |
| 14 15 26 | 3C84 | 09 04 50 | 34.2 | 295.5 | 5.7 | | 46.4 | -26 | 240 | 14 15 26 |
| 14 17 26 | --- | 09 06 51 | 33.9 | 295.9 | 5.8 | | 46.2 | 94 | 242 | 14 15 27 |
| 14 17 46 | 3C84 | 09 07 11 | 33.9 | 295.9 | 5.8 | | 46.2 | 14 | 242 | 14 17 46 |
| 14 20 46 | --- | 09 10 11 | 33.4 | 296.4 | 5.8 | | 46.0 | 180 | 244 | 14 17 47 |
| Next scan frequencies: | | 6620.25 | 6620.25 | 6690.25 | 6690.25 | | | | | |
| Next BBC frequencies: | | 720.25 | 720.25 | 790.25 | 790.25 | | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | | | | | |
| 14 22 43 | 0204+151 | 09 12 08 | 2.6 | 292.3 | 7.1 | D | 35.2 | -11 | 244 | 14 22 43 |
| 14 23 43 | --- | 09 13 08 | 2.5 | 292.5 | 7.1 | D | 35.1 | 0 | 246 | 14 23 08 |
| 14 29 02 | 0339-014 | 09 18 28 | 1.9 | 264.6 | 5.6 | D | 36.7 | 246 | 246 | 14 29 02 |
| 14 30 02 | --- | 09 19 28 | 1.7 | 264.8 | 5.7 | D | 36.7 | 0 | 248 | 14 29 03 |
| 14 31 22 | 0501-015 | 09 20 49 | 13.2 | 248.2 | 4.3 | | 33.9 | 28 | 248 | 14 31 22 |
| 14 32 22 | --- | 09 21 49 | 13.1 | 248.4 | 4.3 | | 34.0 | 60 | 250 | 14 31 23 |
| 14 37 01 | 0808+495 | 09 26 29 | 77.6 | 262.3 | 1.3 | | 67.2 | 23 | 250 | 14 37 01 |
| 14 38 01 | --- | 09 27 29 | 77.5 | 262.6 | 1.3 | | 67.3 | 60 | 252 | 14 37 02 |
| 14 42 46 | 0501-015 | 09 32 14 | 11.6 | 250.6 | 4.5 | | 34.5 | 24 | 252 | 14 42 46 |
| 14 43 46 | --- | 09 33 14 | 11.5 | 250.8 | 4.5 | | 34.6 | 60 | 254 | 14 42 47 |
| 14 45 46 | 1058+811 | 09 35 15 | 61.2 | 366.6 | -1.4 | W | -153.4 | -126 | 254 | 14 45 46 |
| 14 47 16 | --- | 09 36 45 | 61.2 | 366.5 | -1.4 | W | -153.9 | 0 | 257 | 14 45 47 |
| 14 48 16 | 1153+805 | 09 37 45 | 60.3 | 370.3 | -2.3 | | -137.3 | 37 | 257 | 14 48 16 |
| 14 49 16 | --- | 09 38 45 | 60.3 | 370.2 | -2.3 | | -137.6 | 60 | 259 | 14 48 17 |
| 14 53 24 | 1638+572 | 09 42 54 | 36.5 | 400.7 | -6.9 | | -46.5 | 144 | 259 | 14 53 24 |
| 14 54 24 | --- | 09 43 54 | 36.6 | 400.8 | -6.9 | | -46.6 | 60 | 261 | 14 53 25 |
| 14 55 30 | 1746+622 | 09 45 01 | 34.7 | 389.0 | -8.0 | | -39.0 | 27 | 261 | 14 55 30 |
| 14 56 30 | --- | 09 46 01 | 34.7 | 389.1 | -8.0 | | -39.2 | 60 | 263 | 14 55 31 |
| 14 58 30 | 0019+732 | 09 48 01 | 39.3 | 346.9 | 9.5 | | 28.6 | 21 | 263 | 14 58 30 |
| 15 00 00 | --- | 09 49 31 | 39.2 | 347.0 | 9.5 | | 28.3 | 90 | 266 | 14 58 31 |

```
SETUP FILE INFORMATION:
   NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.


 ======== Setup file: geodetic

   Setup group:   36         Station: TORUN            Total bit rate:   256
   Format: MARK5B            Bits per sample: 2        Sample rate: 32.000
   Number of channels:  4    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.

   1st LO=   5900.00   5900.00   5900.00   5900.00
   Net SB=         U         U         U         U
   IF SB =         U         U         U         U
   Pol.  =       RCP       LCP       RCP       LCP
   BBC   =         1         5         2         6
   BBC SB=         U         U         U         U
   IF    =        A1        B1        A1        B1

  The following frequency sets based on these setups were used.

   Frequency Set:   6  Setup file default.  Used with PCAL = off
   LO sum=   6620.25  6620.25  6690.25  6690.25
   BBC fr=    720.25   720.25   790.25   790.25
   Bandwd=     16.00    16.00    16.00    16.00
    Matching frequency sets:   6

   Track assignments are:
    track1=   2,  6,  4,  8
    barrel=roll_off


 ======== Setup file: sess214.M128

   Setup group:   18         Station: TORUN            Total bit rate:   128
   Format: MARK5B            Bits per sample: 2        Sample rate: 32.000
   Number of channels:  2    DBE type: DBBC_DDC        Speedup factor:   1.00

   Disk used to record data.

   1st LO=   5900.00   5900.00
   Net SB=         U         U
   IF SB =         U         U
   Pol.  =       RCP       LCP
   BBC   =         1         5
   BBC SB=         U         U
   IF    =        A1        B1

  The following frequency sets based on these setups were used.

  Frequency Set:  24  Based on FREQ, BW, and/or DOPPLER in schedule.  Used with PCAL = off
   LO sum=   6666.25  6666.25
   BBC fr=    766.25   766.25
   Bandwd=     16.00    16.00
    Matching frequency sets:  24

   Track assignments are:
    track1=   2,  4
    barrel=roll_off
```

POSITIONS OF SOURCES USED IN RECORDING SCANS

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * M31_MSR | 00 41 34.512795 | * 00 44 19.170000 | 00 45 07.395958 | 0.00 |
| | 41 03 06.21546 | * 41 19 30.60000 | 41 24 02.51928 | 0.00 |
| * J0042 | 00 40 07.286514 | * 00 42 51.622320 | 00 43 39.767055 | 0.00 |
| | 41 10 08.76856 | * 41 26 34.31910 | 41 31 06.59715 | 0.00 |
| * 2148+065 | 21 45 36.078481 | * 21 48 05.458679 | 21 48 49.737583 | 0.00 |
| | 06 43 40.90462 | * 06 57 38.60422 | 07 01 46.16053 | 0.00 |
| * 2225-045 | 22 23 11.077764 | * 22 25 47.259291 | 22 26 33.189064 | 0.00 |
| | -05 12 17.79937 | *-04 57 01.39073 | -04 52 28.60807 | 0.00 |
| * 2236+282 | 22 34 01.728815 | * 22 36 22.470860 | 22 37 04.304648 | 0.00 |
| | 28 13 23.21056 | * 28 28 57.41329 | 28 33 24.05884 | 0.00 |
| * 1740+521 | 17 39 29.003553 | * 17 40 36.977850 | 17 40 58.948786 | 0.00 |
| | 52 13 10.43856 | * 52 11 43.40750 | 52 11 27.09101 | 0.00 |
| * 0726+791 | 07 18 08.855815 | * 07 26 11.735177 | 07 28 23.850374 | 0.00 |
| | 79 17 22.63938 | * 79 11 31.01624 | 79 09 42.88337 | 0.00 |
| * 0958+653 | 09 54 57.847921 | * 09 58 47.245101 | 09 59 51.207049 | 0.00 |
| | 65 48 15.53887 | * 65 33 54.81806 | 65 29 53.66514 | 0.00 |
| * 1153+805 | 11 50 23.482288 | * 11 53 12.499130 | 11 53 57.678002 | 0.00 |
| | 81 15 10.31168 | * 80 58 29.15451 | 80 53 56.11896 | 0.00 |
| * 1302+574 | 13 00 47.131446 | * 13 02 52.465282 | 13 03 28.949871 | 0.00 |
| | 58 04 43.18821 | * 57 48 37.60942 | 57 44 13.88932 | 0.00 |
| * 1638+572 | 16 37 17.425178 | * 16 38 13.456293 | 16 38 31.927153 | 0.00 |
| | 57 26 15.76147 | * 57 20 23.97918 | 57 18 54.21353 | 0.00 |
| * 1746+622 | 17 45 48.087296 | * 17 46 14.034146 | 17 46 24.443670 | 0.00 |
| | 62 27 55.74948 | * 62 26 54.73842 | 62 26 45.13758 | 0.00 |
| * 0204+151 | 02 02 07.396236 | * 02 04 50.413904 | 02 05 37.380702 | 0.00 |
| | 14 59 50.93924 | * 15 14 11.04346 | 15 18 11.29809 | 0.00 |
| * 0339-014 | 03 36 58.953147 | * 03 39 30.937787 | 03 40 14.164186 | 0.00 |
| | -01 56 16.89639 | *-01 46 35.80399 | -01 43 55.77200 | 0.00 |
| * 0501-015 | 04 58 41.344692 | * 05 01 12.809888 | 05 01 55.722787 | 0.00 |
| | -02 03 33.86875 | *-01 59 14.25620 | -01 58 09.93468 | 0.00 |
| * 0808+495 | 08 04 58.395733 | * 08 08 39.666274 | 08 09 42.073872 | 0.00 |
| | 49 59 23.07816 | * 49 50 36.53046 | 49 48 01.52078 | 0.00 |
| * 1058+811 | 10 53 36.229428 | * 10 58 11.535365 | 10 59 24.508129 | 0.00 |
| | 81 30 35.56785 | * 81 14 32.67521 | 81 10 07.56807 | 0.00 |
| * 0019+732 | 00 16 54.195148 | * 00 19 45.786427 | 00 20 37.609606 | 0.00 |
| | 73 10 51.40701 | * 73 27 30.01745 | 73 32 01.47307 | 0.00 |
| * J0038+4137 | 00 35 41.568818 | * 00 38 24.843586 | 00 39 12.714150 | 0.14 |
| 0035+413 | 41 20 37.14185 | * 41 37 06.00024 | 41 41 39.34742 | 0.10 |

| | | | | |
|---|---|---|---|---|
| J0137+3309 | 01 34 49.826374 | * 01 37 41.299440 | 01 38 31.043548 | 0.52 |
| * 3C48 | 32 54 20.25881 | * 33 09 35.13299 | 33 13 47.35230 | 0.50 |
| J0319+4130 | 03 16 29.567260 | * 03 19 48.160090 | 03 20 45.165237 | 1.30 |
| * 3C84 | 41 19 51.91699 | * 41 30 42.10412 | 41 33 34.86657 | 2.72 |
| J2253+1608 | 22 51 29.519738 | * 22 53 57.747937 | 22 54 41.472709 | 0.68 |
| * 3C454.3 | 15 52 54.34810 | * 16 08 53.56093 | 16 13 30.42478 | 0.72 |

EFFECT OF SOLAR CORONA

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) |
|---|---|
| M31_MSR | 62.1 |
| J0042 | 62.3 |
| 2148+065 | 111.1 |
| 2225-045 | 107.7 |
| 2236+282 | 90.8 |
| 1740+521 | 104.5 |
| 0726+791 | 57.3 |
| 0958+653 | 59.1 |
| 1153+805 | 67.7 |
| 1302+574 | 81.3 |
| 1638+572 | 98.5 |
| 1746+622 | 94.2 |
| 0204+151 | 49.9 |
| 0339-014 | 37.6 |
| 0501-015 | 26.6 |
| 0808+495 | 40.0 |
| 1058+811 | 65.6 |
| 0019+732 | 64.5 |
| J0038+4137 | 63.1 |
| 3C48 | 52.4 |
| 3C84 | 33.4 |
| 3C454.3 | 92.6 |

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
that the Sun will cause amplitude reductions on the longest VLBA baselines
at a solar distance of 60deg F^(-0.6) where F is in GHz.
For common VLBI bands, this is:

| | |
|---|---|
| 327 MHz | 117. deg |
| 610 MHz | 81. deg |
| 1.6 GHz | 45. deg |
| 2.3 GHz | 36. deg |
| 5.0 GHz | 23. deg |
| 8.4 GHz | 17. deg |
| 15.0 GHz | 12. deg |
| 22.0 GHz | 9. deg |
| 43.0 GHz | 6. deg |

# es072ktr

## 6.7GHz CH3OH maser polarization towards massive protostars. II.

PI: *G. Surcis*

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Notes: Polarization observations of 1 sources at 6.7 GHz (32 Mb/s); source = G43.80-0.13

Schedule for TORUN (Code Tr ) Page 2
6.7GHz CH3OH maser polarization towards massive protostars. II.
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 15 Jun 2014 Day 166 --- | | | | | | | | | | |
| Next scan frequencies: | | 6667.19 | 6667.19 | 6667.19 | 6667.19 | | | | | |
| Next BBC frequencies: | | 767.19 | 767.19 | 767.19 | 767.19 | | | | | |
| Next scan bandwidths: | | 2.00 | 2.00 | 2.00 | 2.00 | | | | | |
| 21 30 00 | J2202+4216 | 16 20 35 | 34.9 | 64.0 | -5.7 | | -46.9 | 0 | 0 | 21 30 00 |
| 21 40 00 | =BLLAC | 16 30 37 | 36.3 | 65.5 | -5.5 | | -47.7 | 600 | 2 | 21 30 01 |
| 21 43 10 | G43.80-0.13 | 16 33 48 | 36.1 | 128.8 | -2.6 | | -28.3 | 49 | 2 | 21 43 10 |
| 21 53 10 | --- | 16 43 49 | 37.2 | 131.5 | -2.5 | | -27.1 | 600 | 5 | 21 43 11 |
| 21 53 40 | G43.80-0.13 | 16 44 19 | 37.3 | 131.6 | -2.5 | | -27.1 | 24 | 5 | 21 53 40 |
| 22 03 40 | --- | 16 54 21 | 38.4 | 134.5 | -2.3 | | -25.8 | 600 | 7 | 21 53 41 |
| 22 04 10 | G43.80-0.13 | 16 54 51 | 38.5 | 134.6 | -2.3 | | -25.7 | 24 | 7 | 22 04 10 |
| 22 14 10 | --- | 17 04 53 | 39.5 | 137.5 | -2.1 | | -24.3 | 600 | 10 | 22 04 11 |
| 22 14 40 | G43.80-0.13 | 17 05 23 | 39.6 | 137.6 | -2.1 | | -24.2 | 24 | 10 | 22 14 40 |
| 22 24 40 | --- | 17 15 24 | 40.5 | 140.6 | -2.0 | | -22.8 | 600 | 12 | 22 14 41 |
| 22 28 00 | J2202+4216 | 17 18 45 | 43.0 | 73.0 | -4.7 | | -51.0 | 50 | 12 | 22 28 00 |
| 22 38 00 | =BLLAC | 17 28 47 | 44.4 | 74.6 | -4.6 | | -51.6 | 600 | 15 | 22 28 01 |
| 22 48 00 | J1331+3030 | 17 38 48 | 40.6 | 268.3 | 4.1 | | 44.1 | 199 | 15 | 22 48 00 |
| 22 58 00 | =3C286 | 17 48 50 | 39.0 | 270.3 | 4.3 | | 44.1 | 600 | 17 | 22 48 01 |
| 23 04 30 | G43.80-0.13 | 17 55 21 | 43.8 | 153.1 | -1.3 | | -16.0 | 139 | 17 | 23 04 30 |
| 23 14 30 | --- | 18 05 23 | 44.5 | 156.5 | -1.1 | | -14.1 | 600 | 19 | 23 04 31 |
| 23 15 00 | G43.80-0.13 | 18 05 53 | 44.5 | 156.6 | -1.1 | | -14.0 | 24 | 19 | 23 15 00 |
| 23 25 00 | --- | 18 15 54 | 45.0 | 160.0 | -0.9 | | -12.0 | 600 | 22 | 23 15 01 |
| 23 25 30 | G43.80-0.13 | 18 16 24 | 45.1 | 160.2 | -0.9 | | -11.9 | 24 | 22 | 23 25 30 |
| 23 35 30 | --- | 18 26 26 | 45.5 | 163.6 | -0.8 | | -9.9 | 600 | 24 | 23 25 31 |
| 23 39 20 | J2202+4216 | 18 30 17 | 53.5 | 85.1 | -3.6 | | -54.0 | 57 | 24 | 23 39 20 |
| 23 49 20 | =BLLAC | 18 40 18 | 55.0 | 86.9 | -3.4 | | -54.2 | 600 | 27 | 23 39 21 |

Schedule for TORUN (Code Tr ) Page 3

6.7GHz CH3OH maser polarization towards massive protostars. II.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 16 Jun 2014 Day 167 --- | | | | | | | | | | |
| --- Start: Sun 15 Jun 2014 Day 166 -- Stop: Mon 16 Jun 2014 Day 167 --- | | | | | | | | | | |
| 23 53 20 | G43.80-0.13 | 18 44 19 | 46.2 | 169.9 | -0.5 | | -6.1 | 60 | 27 | 23 53 20 |
| 00 03 20 | --- | 18 54 21 | 46.4 | 173.5 | -0.3 | | -4.0 | 600 | 29 | 23 53 21 |
| 00 03 50 | G43.80-0.13 | 18 54 51 | 46.4 | 173.6 | -0.3 | | -3.9 | 24 | 29 | 00 03 50 |
| 00 13 50 | --- | 19 04 52 | 46.5 | 177.2 | -0.1 | | -1.7 | 600 | 31 | 00 03 51 |
| 00 14 20 | G43.80-0.13 | 19 05 22 | 46.5 | 177.4 | -0.1 | | -1.6 | 24 | 31 | 00 14 20 |
| 00 24 20 | --- | 19 15 24 | 46.5 | 181.0 | 0.0 | | 0.6 | 600 | 34 | 00 14 21 |
| 00 24 50 | G43.80-0.13 | 19 15 54 | 46.5 | 181.2 | 0.1 | | 0.7 | 24 | 34 | 00 24 50 |
| 00 32 50 | --- | 19 23 55 | 46.5 | 184.0 | 0.2 | | 2.5 | 480 | 36 | 00 24 51 |
| 00 37 00 | J2202+4216 | 19 28 06 | 62.2 | 96.9 | -2.6 | | -53.8 | 60 | 36 | 00 37 00 |
| 00 47 00 | =BLLAC | 19 38 08 | 63.7 | 99.3 | -2.4 | | -53.3 | 600 | 38 | 00 37 01 |
| 00 51 20 | G43.80-0.13 | 19 42 28 | 46.1 | 190.6 | 0.5 | | 6.5 | 63 | 38 | 00 51 20 |
| 01 01 20 | --- | 19 52 30 | 45.8 | 194.2 | 0.7 | | 8.6 | 600 | 41 | 00 51 21 |
| 01 01 50 | G43.80-0.13 | 19 53 00 | 45.8 | 194.3 | 0.7 | | 8.7 | 24 | 41 | 01 01 50 |
| 01 11 50 | --- | 20 03 02 | 45.4 | 197.8 | 0.8 | | 10.7 | 600 | 43 | 01 01 51 |
| 01 12 20 | G43.80-0.13 | 20 03 32 | 45.3 | 198.0 | 0.8 | | 10.8 | 24 | 43 | 01 12 20 |
| 01 22 20 | --- | 20 13 34 | 44.8 | 201.4 | 1.0 | | 12.9 | 600 | 45 | 01 12 21 |
| 01 22 50 | G43.80-0.13 | 20 14 04 | 44.8 | 201.6 | 1.0 | | 13.0 | 24 | 45 | 01 22 50 |
| 01 32 50 | --- | 20 24 05 | 44.2 | 205.0 | 1.2 | | 14.9 | 600 | 48 | 01 22 51 |
| 01 37 30 | J2202+4216 | 20 28 46 | 70.9 | 114.8 | -1.6 | | -47.5 | 84 | 48 | 01 37 30 |
| 01 47 30 | =BLLAC | 20 38 48 | 72.3 | 118.8 | -1.4 | | -45.4 | 600 | 50 | 01 37 31 |
| 01 52 20 | G43.80-0.13 | 20 43 38 | 42.8 | 211.3 | 1.5 | | 18.5 | 91 | 50 | 01 52 20 |
| 02 02 20 | --- | 20 53 40 | 42.0 | 214.5 | 1.7 | | 20.2 | 600 | 53 | 01 52 21 |
| 02 02 50 | G43.80-0.13 | 20 54 10 | 42.0 | 214.6 | 1.7 | | 20.3 | 24 | 53 | 02 02 50 |
| 02 12 50 | --- | 21 04 12 | 41.1 | 217.7 | 1.9 | | 21.9 | 600 | 55 | 02 02 51 |
| 02 13 20 | G43.80-0.13 | 21 04 42 | 41.0 | 217.9 | 1.9 | | 22.0 | 24 | 55 | 02 13 20 |
| 02 23 20 | --- | 21 14 44 | 40.1 | 220.9 | 2.0 | | 23.5 | 600 | 58 | 02 13 21 |
| 02 23 50 | G43.80-0.13 | 21 15 14 | 40.0 | 221.0 | 2.0 | | 23.6 | 24 | 58 | 02 23 50 |
| 02 33 50 | --- | 21 25 15 | 39.0 | 223.9 | 2.2 | | 25.0 | 600 | 60 | 02 23 51 |
| 02 38 50 | J2202+4216 | 21 30 16 | 77.9 | 149.5 | -0.6 | | -24.4 | 132 | 60 | 02 38 50 |
| 02 48 50 | =BLLAC | 21 40 18 | 78.6 | 158.0 | -0.4 | | -17.7 | 600 | 62 | 02 38 51 |

Schedule for TORUN (Code Tr ) Page 4

6.7GHz CH3OH maser polarization towards massive protostars. II.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 16 Jun 2014 Day 167 --- | | | | | | | | | | |
| 02 51 50 | J2136+0041 | 21 43 18 | 37.7 | 181.9 | 0.1 | | 1.1 | 13 | 62 | 02 51 50 |
| 03 01 50 | =2134+00 | 21 53 20 | 37.6 | 185.0 | 0.3 | | 3.0 | 600 | 65 | 02 51 51 |
| 03 04 40 | G43.80-0.13 | 21 56 10 | 35.5 | 232.5 | 2.7 | | 28.9 | 61 | 65 | 03 04 40 |
| 03 14 40 | --- | 22 06 12 | 34.3 | 235.1 | 2.9 | | 30.0 | 600 | 67 | 03 04 41 |
| 03 15 10 | G43.80-0.13 | 22 06 42 | 34.3 | 235.2 | 2.9 | | 30.0 | 24 | 67 | 03 15 10 |
| 03 25 10 | --- | 22 16 44 | 33.0 | 237.8 | 3.1 | | 31.0 | 600 | 70 | 03 15 11 |
| 03 25 40 | G43.80-0.13 | 22 17 14 | 32.9 | 237.9 | 3.1 | | 31.1 | 24 | 70 | 03 25 40 |
| 03 35 40 | --- | 22 27 15 | 31.7 | 240.4 | 3.2 | | 32.0 | 600 | 72 | 03 25 41 |
| 03 40 20 | J2202+4216 | 22 31 56 | 78.2 | 206.8 | 0.5 | | 21.5 | 91 | 72 | 03 40 20 |
| 03 50 20 | =BLLAC | 22 41 58 | 77.5 | 214.8 | 0.6 | | 27.6 | 600 | 75 | 03 40 21 |
| 03 55 00 | G43.80-0.13 | 22 46 39 | 29.1 | 245.1 | 3.6 | | 33.5 | 85 | 75 | 03 55 00 |
| 04 05 00 | --- | 22 56 40 | 27.7 | 247.4 | 3.7 | | 34.2 | 600 | 77 | 03 55 01 |
| 04 05 30 | G43.80-0.13 | 22 57 10 | 27.6 | 247.5 | 3.7 | | 34.2 | 24 | 77 | 04 05 30 |
| 04 15 30 | --- | 23 07 12 | 26.2 | 249.8 | 3.9 | | 34.9 | 600 | 79 | 04 05 31 |
| 04 20 00 | J2202+4216 | 23 11 43 | 74.3 | 233.6 | 1.1 | | 40.8 | 75 | 79 | 04 20 00 |
| 04 30 00 | =BLLAC | 23 21 44 | 73.1 | 238.4 | 1.3 | | 43.8 | 600 | 82 | 04 20 01 |

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: sess214.M32
--- WARNING --- This group does not match an entry in the frequency catalog.
This might be ok because the catalog is not complete.
But be very careful to be sure that the setup is correct.

Setup group: 7 Station: TORUN Total bit rate: 32
Format: MARK5B Bits per sample: 2 Sample rate: 4.000
Number of channels: 4 DBE type: Speedup factor: 1.00

Disk used to record data.

| | | | | |
|---|---|---|---|---|
| 1st LO= | 5900.00 | 5900.00 | 5900.00 | 5900.00 |
| Net SB= | U | U | U | U |
| Pol. = | RCP | LCP | RCP | LCP |
| BBC = | 1 | 5 | 2 | 6 |
| BBC SB= | U | U | U | U |
| IF = | A1 | B1 | A1 | B1 |

```
 The following frequency sets based on these setups were used.

 Frequency Set:   5  Based on FREQ, BW, and/or DOPPLER in schedule.
  LO sum=   6667.19  6667.19  6667.19  6667.19
  BBC fr=    767.19   767.19   767.19   767.19
  Bandwd=      2.00     2.00     2.00     2.00
   Matching frequency sets:   5

  Track assignments are:
   track1=   2,  4,  6,  8
   barrel=roll_off
```

SOURCES USED IN RECORDING SCANS -- 6.7GHz CH3OH maser polarization towards massive protostars. II.

Catalog positions marked with *.
Precession of date coordinates is based on stop time of first scan.
Names used in schedule marked with *.
Short names used in VLA and SNAP files marked with +.
Observation date used in B1950/J2000 coordinate conversion (PRECDATE): 1979.900
No adjustments are made for rates (DRA, DDEC).
Scan hours are for recording scans only.
Baseline hours are only counted for scans above horizon at both ends.

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * G43.80-0.13 | 19 09 30.916732 | * 19 11 53.990000 | 19 12 37.042641 | 0.00 |
| | 09 30 45.98141 | * 09 35 50.30000 | 09 37 27.45715 | 0.00 |
| * J1331+3030 | 13 28 49.657778 | * 13 31 08.288070 | 13 31 49.147736 | 0.20 |
| 3C286 | 30 45 58.64061 | * 30 30 32.95925 | 30 26 15.08376 | 0.19 |
| * J2136+0041 | 21 34 05.207371 | * 21 36 38.586306 | 21 37 24.039894 | 0.74 |
| 2134+00 | 00 28 25.08000 | * 00 41 54.21282 | 00 45 55.98157 | 1.25 |
| * J2202+4216 | 22 00 39.362504 | * 22 02 43.291371 | 22 03 20.738559 | 0.14 |
| BLLAC | 42 02 08.59073 | * 42 16 39.97987 | 42 20 46.76242 | 0.10 |

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) |
|---|---|
| G43.80-0.13 | 139.7 |
| J1331+3030 | 100.3 |
| J2136+0041 | 117.0 |
| J2202+4216 | 90.2 |

# ec044tr

No description given.

PI: *Cuil*

Address: Xinjiang Astronomical Observatory
Phone: +86 (0)991 3689079 EMAIL: cuilang@xao.ac.cn
Phone during observation: +86 (0)21 57667728

Schedule for TORUN (Code Tr ) Page 2

No description given.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 16 Jun 2014 Day 167 --- | | | | | | | | | | |
| Next scan frequencies: | | 6029.28 | 6029.28 | 6029.28 | 6029.28 | 6037.28 | 6037.28 | 6037.28 | 6037.28 | |
| | | 6045.28 | 6045.28 | 6045.28 | 6045.28 | 6053.28 | 6053.28 | 6053.28 | 6053.28 | |
| Next BBC frequencies: | | 629.28 | 629.28 | 629.28 | 629.28 | 637.28 | 637.28 | 637.28 | 637.28 | |
| | | 645.28 | 645.28 | 645.28 | 645.28 | 653.28 | 653.28 | 653.28 | 653.28 | |
| Next scan bandwidths: | | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | |
| | | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | |
| 19 20 00 | OQ208 | 14 14 11 | 65.3 | 183.4 | 0.1 | | 2.3 | 0 | 0 | 19 20 00 |
| 19 24 00 | --- | 14 18 11 | 65.2 | 185.5 | 0.2 | | 3.8 | 240 | 8 | 19 20 01 |
| 19 28 47 | J1925+2106 | 14 22 59 | 25.1 | 87.8 | -5.1 | | -40.0 | 76 | 8 | 19 28 47 |
| 19 30 47 | =1923+210 | 14 25 09 | 25.5 | 88.2 | -5.0 | | -40.1 | 120 | 12 | 19 28 48 |
| 19 30 47 | K3-35 | 14 24 59 | 25.5 | 87.6 | -5.1 | | -40.2 | -12 | 12 | No stop |
| 19 34 17 | --- | 14 28 30 | 26.0 | 88.2 | -5.0 | | -40.2 | 198 | 18 | 19 30 48 |
| 19 34 47 | J1925+2106 | 14 29 00 | 26.0 | 89.0 | -5.0 | | -40.1 | 18 | 18 | 19 34 47 |
| 19 36 47 | =1923+210 | 14 31 00 | 26.3 | 89.4 | -4.9 | | -40.1 | 120 | 22 | 19 34 48 |
| 19 36 47 | K3-35 | 14 31 00 | 26.4 | 88.7 | -5.0 | | -40.2 | -12 | 22 | No stop |
| 19 40 17 | --- | 14 34 31 | 26.9 | 89.4 | -4.9 | | -40.2 | 198 | 29 | 19 36 48 |
| 19 40 47 | J1925+2106 | 14 35 01 | 26.9 | 90.2 | -4.9 | | -40.1 | 18 | 29 | 19 40 47 |
| 19 42 47 | =1923+210 | 14 37 01 | 27.2 | 90.6 | -4.8 | | -40.1 | 120 | 33 | 19 40 48 |
| 19 42 47 | K3-35 | 14 37 01 | 27.3 | 89.9 | -4.9 | | -40.2 | -12 | 33 | No stop |
| 19 46 17 | --- | 14 40 32 | 27.8 | 90.6 | -4.8 | | -40.2 | 198 | 39 | 19 42 48 |
| 19 46 47 | J1925+2106 | 14 41 02 | 27.8 | 91.4 | -4.8 | | -40.1 | 18 | 39 | 19 46 47 |
| 19 48 47 | =1923+210 | 14 43 02 | 28.1 | 91.8 | -4.7 | | -40.1 | 120 | 43 | 19 46 48 |
| 19 48 47 | K3-35 | 14 43 02 | 28.2 | 91.1 | -4.8 | | -40.2 | -12 | 43 | No stop |
| 19 52 17 | --- | 14 46 33 | 28.7 | 91.9 | -4.7 | | -40.2 | 198 | 50 | 19 48 48 |
| 19 52 47 | J1925+2106 | 14 47 03 | 28.7 | 92.6 | -4.7 | | -40.0 | 18 | 50 | 19 52 47 |
| 19 54 47 | =1923+210 | 14 49 03 | 29.0 | 93.0 | -4.6 | | -40.0 | 120 | 54 | 19 52 48 |

Schedule for TORUN (Code Tr ) Page 3

No description given.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 16 Jun 2014 Day 167 --- | | | | | | | | | | |
| 19 54 47 | K3-35 | 14 49 03 | 29.1 | 92.4 | -4.7 | | -40.2 | -12 | 54 | No stop |
| 19 58 17 | --- | 14 52 34 | 29.6 | 93.1 | -4.6 | | -40.1 | 198 | 61 | 19 54 48 |
| 19 58 47 | J1925+2106 | 14 53 04 | 29.6 | 93.8 | -4.6 | | -40.0 | 18 | 61 | 19 58 47 |
| 20 00 47 | =1923+210 | 14 55 04 | 29.9 | 94.2 | -4.5 | | -39.9 | 120 | 64 | 19 58 48 |
| 20 00 47 | K3-35 | 14 55 04 | 30.0 | 93.6 | -4.6 | | -40.1 | -12 | 64 | No stop |
| 20 04 17 | --- | 14 58 35 | 30.5 | 94.3 | -4.5 | | -40.1 | 198 | 71 | 20 00 48 |
| 20 04 47 | J1925+2106 | 14 59 05 | 30.5 | 95.1 | -4.5 | | -39.9 | 18 | 71 | 20 04 47 |
| 20 06 47 | =1923+210 | 15 01 05 | 30.8 | 95.5 | -4.4 | | -39.9 | 120 | 75 | 20 04 48 |
| 20 06 47 | K3-35 | 15 01 05 | 30.9 | 94.8 | -4.5 | | -40.0 | -12 | 75 | No stop |
| 20 10 17 | --- | 15 04 36 | 31.4 | 95.6 | -4.4 | | -40.0 | 198 | 82 | 20 06 48 |
| 20 10 47 | J1925+2106 | 15 05 06 | 31.4 | 96.3 | -4.4 | | -39.8 | 18 | 82 | 20 10 47 |
| 20 12 47 | =1923+210 | 15 07 06 | 31.7 | 96.8 | -4.3 | | -39.7 | 120 | 86 | 20 10 48 |
| 20 12 47 | K3-35 | 15 07 06 | 31.8 | 96.1 | -4.4 | | -39.9 | -12 | 86 | No stop |
| 20 16 17 | --- | 15 10 37 | 32.3 | 96.8 | -4.3 | | -39.9 | 198 | 92 | 20 12 48 |
| 20 16 47 | J1925+2106 | 15 11 07 | 32.3 | 97.6 | -4.3 | | -39.7 | 18 | 92 | 20 16 47 |
| 20 18 47 | =1923+210 | 15 13 07 | 32.6 | 98.0 | -4.2 | | -39.6 | 120 | 96 | 20 16 48 |
| 20 18 47 | K3-35 | 15 13 07 | 32.7 | 97.4 | -4.3 | | -39.8 | -12 | 96 | No stop |
| 20 22 17 | --- | 15 16 38 | 33.2 | 98.1 | -4.2 | | -39.7 | 198 | 103 | 20 18 48 |
| 20 22 47 | J1925+2106 | 15 17 08 | 33.2 | 98.9 | -4.2 | | -39.5 | 18 | 103 | 20 22 47 |
| 20 24 47 | =1923+210 | 15 19 08 | 33.5 | 99.3 | -4.1 | | -39.4 | 120 | 107 | 20 22 48 |
| 20 24 47 | K3-35 | 15 19 08 | 33.6 | 98.6 | -4.2 | | -39.7 | -12 | 107 | No stop |
| 20 28 17 | --- | 15 22 39 | 34.1 | 99.4 | -4.1 | | -39.6 | 198 | 113 | 20 24 48 |
| 20 28 47 | J1925+2106 | 15 23 09 | 34.1 | 100.2 | -4.1 | | -39.3 | 17 | 113 | 20 28 47 |
| 20 30 47 | =1923+210 | 15 25 09 | 34.4 | 100.6 | -4.0 | | -39.3 | 120 | 117 | 20 28 48 |
| 20 30 47 | K3-35 | 15 25 09 | 34.5 | 99.9 | -4.1 | | -39.5 | -12 | 117 | No stop |
| 20 34 17 | --- | 15 28 40 | 35.0 | 100.7 | -4.0 | | -39.4 | 198 | 124 | 20 30 48 |
| 20 34 47 | J1925+2106 | 15 29 10 | 35.0 | 101.5 | -4.0 | | -39.1 | 17 | 124 | 20 34 47 |
| 20 36 47 | =1923+210 | 15 31 10 | 35.3 | 102.0 | -3.9 | | -39.0 | 120 | 128 | 20 34 48 |
| 20 36 47 | K3-35 | 15 31 10 | 35.4 | 101.3 | -4.0 | | -39.3 | -12 | 128 | No stop |
| 20 40 17 | --- | 15 34 41 | 35.9 | 102.0 | -3.9 | | -39.1 | 198 | 135 | 20 36 48 |
| 20 40 47 | J1925+2106 | 15 35 11 | 35.9 | 102.8 | -3.9 | | -38.9 | 17 | 135 | 20 40 47 |
| 20 42 47 | =1923+210 | 15 37 11 | 36.2 | 103.3 | -3.8 | | -38.8 | 120 | 138 | 20 40 48 |

Schedule for TORUN (Code Tr ) Page 4

No description given.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 16 Jun 2014 Day 167 --- | | | | | | | | | | |
| 20 44 45 | J1751+0939 | 15 39 09 | 39.0 | 135.9 | -2.2 | | -25.1 | 38 | 138 | 20 44 45 |
| 20 47 45 | =1749+096 | 15 42 20 | 39.3 | 136.8 | -2.2 | | -24.6 | 180 | 144 | 20 44 46 |
| 20 49 41 | J1925+2106 | 15 44 06 | 37.2 | 104.9 | -3.7 | | -38.5 | 37 | 144 | 20 49 41 |
| 20 51 41 | =1923+210 | 15 46 17 | 37.5 | 105.4 | -3.7 | | -38.4 | 120 | 148 | 20 49 42 |
| 20 51 41 | K3-35 | 15 46 07 | 37.5 | 104.6 | -3.7 | | -38.7 | -13 | 148 | No stop |
| 20 55 11 | --- | 15 49 37 | 38.0 | 105.4 | -3.6 | | -38.5 | 197 | 155 | 20 51 42 |
| 20 55 42 | J1925+2106 | 15 50 08 | 38.1 | 106.3 | -3.6 | | -38.2 | 18 | 155 | 20 55 42 |
| 20 57 42 | =1923+210 | 15 52 09 | 38.4 | 106.7 | -3.6 | | -38.1 | 120 | 159 | 20 55 43 |
| 20 57 42 | K3-35 | 15 52 09 | 38.4 | 106.0 | -3.6 | | -38.4 | -12 | 159 | No stop |
| 21 01 12 | --- | 15 55 39 | 38.9 | 106.8 | -3.5 | | -38.2 | 198 | 165 | 20 57 43 |
| 21 01 43 | J1925+2106 | 15 56 10 | 38.9 | 107.7 | -3.5 | | -37.8 | 18 | 165 | 21 01 43 |
| 21 03 43 | =1923+210 | 15 58 11 | 39.2 | 108.2 | -3.5 | | -37.7 | 120 | 169 | 21 01 44 |
| 21 03 43 | K3-35 | 15 58 11 | 39.3 | 107.4 | -3.5 | | -38.0 | -12 | 169 | No stop |
| 21 07 13 | --- | 16 01 41 | 39.8 | 108.3 | -3.4 | | -37.8 | 198 | 176 | 21 03 44 |
| 21 07 44 | J1925+2106 | 16 02 12 | 39.8 | 109.1 | -3.4 | | -37.5 | 18 | 176 | 21 07 44 |
| 21 09 44 | =1923+210 | 16 04 13 | 40.1 | 109.6 | -3.4 | | -37.3 | 120 | 180 | 21 07 45 |
| 21 09 44 | K3-35 | 16 04 13 | 40.1 | 108.9 | -3.4 | | -37.6 | -12 | 180 | No stop |
| 21 13 14 | --- | 16 07 43 | 40.6 | 109.7 | -3.3 | | -37.4 | 198 | 187 | 21 09 45 |
| 21 13 45 | J1925+2106 | 16 08 14 | 40.6 | 110.6 | -3.3 | | -37.1 | 18 | 187 | 21 13 45 |
| 21 15 45 | =1923+210 | 16 10 15 | 40.9 | 111.1 | -3.3 | | -36.9 | 120 | 190 | 21 13 46 |
| 21 15 45 | K3-35 | 16 10 15 | 41.0 | 110.3 | -3.3 | | -37.2 | -13 | 190 | No stop |
| 21 19 15 | --- | 16 13 45 | 41.5 | 111.2 | -3.2 | | -37.0 | 197 | 197 | 21 15 46 |
| 21 19 46 | J1925+2106 | 16 14 16 | 41.5 | 112.1 | -3.2 | | -36.6 | 18 | 197 | 21 19 46 |
| 21 21 46 | =1923+210 | 16 16 17 | 41.8 | 112.6 | -3.2 | | -36.5 | 120 | 201 | 21 19 47 |
| 21 21 46 | K3-35 | 16 16 17 | 41.8 | 111.8 | -3.2 | | -36.8 | -13 | 201 | No stop |
| 21 25 16 | --- | 16 19 47 | 42.3 | 112.7 | -3.1 | | -36.5 | 197 | 208 | 21 21 47 |
| 21 25 47 | J1925+2106 | 16 20 18 | 42.3 | 113.6 | -3.1 | | -36.2 | 18 | 208 | 21 25 47 |
| 21 27 47 | =1923+210 | 16 22 19 | 42.6 | 114.1 | -3.1 | | -36.0 | 120 | 212 | 21 25 48 |
| 21 27 47 | K3-35 | 16 22 19 | 42.7 | 113.4 | -3.1 | | -36.3 | -13 | 212 | No stop |
| 21 31 17 | --- | 16 25 49 | 43.2 | 114.3 | -3.0 | | -36.1 | 197 | 218 | 21 27 48 |
| 21 31 48 | J1925+2106 | 16 26 20 | 43.1 | 115.2 | -3.0 | | -35.6 | 18 | 218 | 21 31 48 |
| 21 33 48 | =1923+210 | 16 28 21 | 43.4 | 115.7 | -3.0 | | -35.5 | 120 | 222 | 21 31 49 |

Schedule for TORUN (Code Tr ) Page 5

No description given.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 16 Jun 2014 Day 167 --- | | | | | | | | | | |
| 21 33 48 | K3-35 | 16 28 21 | 43.5 | 114.9 | -3.0 | | -35.8 | -13 | 222 | No stop |
| 21 37 18 | --- | 16 31 51 | 44.0 | 115.8 | -2.9 | | -35.5 | 197 | 229 | 21 33 49 |
| 21 37 49 | J1925+2106 | 16 32 22 | 44.0 | 116.7 | -2.9 | | -35.1 | 18 | 229 | 21 37 49 |
| 21 39 49 | =1923+210 | 16 34 23 | 44.2 | 117.3 | -2.9 | | -34.9 | 120 | 233 | 21 37 50 |
| 21 39 49 | K3-35 | 16 34 23 | 44.3 | 116.5 | -2.9 | | -35.3 | -13 | 233 | No stop |
| 21 43 19 | --- | 16 37 53 | 44.8 | 117.4 | -2.8 | | -35.0 | 197 | 239 | 21 39 50 |
| 21 43 50 | J1925+2106 | 16 38 24 | 44.8 | 118.4 | -2.8 | | -34.5 | 18 | 239 | 21 43 50 |
| 21 45 50 | =1923+210 | 16 40 25 | 45.0 | 118.9 | -2.8 | | -34.3 | 120 | 243 | 21 43 51 |
| 21 45 50 | K3-35 | 16 40 25 | 45.1 | 118.1 | -2.8 | | -34.7 | -13 | 243 | No stop |
| 21 49 20 | --- | 16 43 55 | 45.6 | 119.1 | -2.7 | | -34.3 | 197 | 250 | 21 45 51 |
| 21 49 51 | J1925+2106 | 16 44 26 | 45.6 | 120.0 | -2.7 | | -33.9 | 18 | 250 | 21 49 51 |
| 21 51 51 | =1923+210 | 16 46 27 | 45.8 | 120.6 | -2.7 | | -33.7 | 120 | 254 | 21 49 52 |
| 21 51 51 | K3-35 | 16 46 27 | 45.9 | 119.8 | -2.7 | | -34.1 | -13 | 254 | No stop |
| 21 55 21 | --- | 16 49 57 | 46.4 | 120.7 | -2.6 | | -33.7 | 197 | 261 | 21 51 52 |
| 21 55 52 | J1925+2106 | 16 50 28 | 46.3 | 121.7 | -2.6 | | -33.2 | 18 | 261 | 21 55 52 |
| 21 57 52 | =1923+210 | 16 52 29 | 46.6 | 122.3 | -2.6 | | -33.0 | 120 | 264 | 21 55 53 |
| 22 00 01 | J1751+0939 | 16 54 38 | 45.0 | 159.7 | -1.0 | | -12.2 | 40 | 264 | 22 00 01 |
| 22 03 01 | =1749+096 | 16 57 49 | 45.2 | 160.8 | -0.9 | | -11.6 | 180 | 270 | 22 00 02 |
| 22 05 08 | J1925+2106 | 16 59 46 | 47.5 | 124.4 | -2.4 | | -32.1 | 39 | 270 | 22 05 08 |
| 22 07 08 | =1923+210 | 17 01 56 | 47.8 | 125.0 | -2.4 | | -31.8 | 120 | 274 | 22 05 09 |
| 22 07 08 | K3-35 | 17 01 46 | 47.9 | 124.1 | -2.4 | | -32.3 | -13 | 274 | No stop |
| 22 10 38 | --- | 17 05 17 | 48.3 | 125.2 | -2.4 | | -31.9 | 197 | 281 | 22 07 09 |
| 22 11 10 | J1925+2106 | 17 05 49 | 48.2 | 126.1 | -2.3 | | -31.3 | 19 | 281 | 22 11 10 |
| 22 13 10 | =1923+210 | 17 07 49 | 48.5 | 126.8 | -2.3 | | -31.1 | 120 | 285 | 22 11 11 |
| 22 13 10 | K3-35 | 17 07 49 | 48.6 | 125.9 | -2.3 | | -31.5 | -13 | 285 | No stop |
| 22 16 40 | --- | 17 11 20 | 49.0 | 127.0 | -2.3 | | -31.0 | 197 | 291 | 22 13 11 |
| 22 17 12 | J1925+2106 | 17 11 52 | 49.0 | 128.0 | -2.2 | | -30.5 | 19 | 291 | 22 17 12 |
| 22 19 12 | =1923+210 | 17 13 52 | 49.2 | 128.6 | -2.2 | | -30.2 | 120 | 295 | 22 17 13 |
| 22 19 12 | K3-35 | 17 13 52 | 49.3 | 127.8 | -2.2 | | -30.7 | -13 | 295 | No stop |
| 22 22 42 | --- | 17 17 23 | 49.8 | 128.8 | -2.2 | | -30.2 | 197 | 302 | 22 19 13 |
| 22 23 14 | J1925+2106 | 17 17 55 | 49.7 | 129.9 | -2.1 | | -29.6 | 19 | 302 | 22 23 14 |
| 22 25 14 | =1923+210 | 17 19 55 | 49.9 | 130.5 | -2.1 | | -29.3 | 120 | 306 | 22 23 15 |

Schedule for TORUN (Code Tr ) Page 6

No description given.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 16 Jun 2014 Day 167 --- | | | | | | | | | | |
| 22 25 14 | K3-35 | 17 19 55 | 50.0 | 129.6 | -2.1 | | -29.8 | -13 | 306 | No stop |
| 22 28 44 | --- | 17 23 26 | 50.5 | 130.7 | -2.1 | | -29.3 | 197 | 312 | 22 25 15 |
| 22 29 16 | J1925+2106 | 17 23 58 | 50.4 | 131.8 | -2.0 | | -28.7 | 18 | 312 | 22 29 16 |
| 22 31 16 | =1923+210 | 17 25 58 | 50.6 | 132.4 | -2.0 | | -28.4 | 120 | 316 | 22 29 17 |
| 22 31 16 | K3-35 | 17 25 58 | 50.7 | 131.6 | -2.0 | | -28.9 | -13 | 316 | No stop |
| 22 34 46 | --- | 17 29 29 | 51.1 | 132.7 | -2.0 | | -28.3 | 197 | 323 | 22 31 17 |
| 22 35 18 | J1925+2106 | 17 30 01 | 51.0 | 133.7 | -1.9 | | -27.7 | 18 | 323 | 22 35 18 |
| 22 37 18 | =1923+210 | 17 32 01 | 51.2 | 134.4 | -1.9 | | -27.4 | 120 | 327 | 22 35 19 |
| 22 37 18 | K3-35 | 17 32 01 | 51.4 | 133.5 | -1.9 | | -27.9 | -13 | 327 | No stop |
| 22 40 48 | --- | 17 35 32 | 51.8 | 134.7 | -1.9 | | -27.3 | 197 | 334 | 22 37 19 |
| 22 41 20 | J1925+2106 | 17 36 04 | 51.7 | 135.7 | -1.8 | | -26.7 | 18 | 334 | 22 41 20 |
| 22 43 20 | =1923+210 | 17 38 04 | 51.9 | 136.4 | -1.8 | | -26.3 | 120 | 337 | 22 41 21 |
| 22 43 20 | K3-35 | 17 38 04 | 52.1 | 135.5 | -1.8 | | -26.9 | -13 | 337 | No stop |
| 22 46 50 | --- | 17 41 35 | 52.4 | 136.7 | -1.8 | | -26.3 | 197 | 344 | 22 43 21 |
| 22 47 22 | J1925+2106 | 17 42 07 | 52.3 | 137.8 | -1.7 | | -25.6 | 18 | 344 | 22 47 22 |
| 22 49 22 | =1923+210 | 17 44 07 | 52.5 | 138.5 | -1.7 | | -25.3 | 120 | 348 | 22 47 23 |
| 22 49 22 | K3-35 | 17 44 07 | 52.7 | 137.6 | -1.7 | | -25.8 | -13 | 348 | No stop |
| 22 52 52 | --- | 17 47 38 | 53.0 | 138.8 | -1.7 | | -25.1 | 197 | 355 | 22 49 23 |
| 22 53 24 | J1925+2106 | 17 48 10 | 52.9 | 139.9 | -1.6 | | -24.5 | 18 | 355 | 22 53 24 |
| 22 55 24 | =1923+210 | 17 50 10 | 53.1 | 140.6 | -1.6 | | -24.1 | 120 | 359 | 22 53 25 |
| 22 55 24 | K3-35 | 17 50 10 | 53.3 | 139.7 | -1.6 | | -24.7 | -13 | 359 | No stop |
| 22 58 54 | --- | 17 53 41 | 53.6 | 141.0 | -1.6 | | -24.0 | 197 | 365 | 22 55 25 |
| 22 59 26 | J1925+2106 | 17 54 13 | 53.5 | 142.1 | -1.5 | | -23.3 | 18 | 365 | 22 59 26 |
| 23 01 26 | =1923+210 | 17 56 13 | 53.7 | 142.8 | -1.5 | | -22.9 | 120 | 369 | 22 59 27 |
| 23 01 26 | K3-35 | 17 56 13 | 53.9 | 141.9 | -1.5 | | -23.5 | -13 | 369 | No stop |
| 23 04 56 | --- | 17 59 44 | 54.2 | 143.2 | -1.5 | | -22.8 | 197 | 376 | 23 01 27 |
| 23 05 28 | J1925+2106 | 18 00 16 | 54.0 | 144.3 | -1.4 | | -22.1 | 18 | 376 | 23 05 28 |
| 23 07 28 | =1923+210 | 18 02 16 | 54.2 | 145.0 | -1.4 | | -21.7 | 120 | 380 | 23 05 29 |
| 23 07 28 | K3-35 | 18 02 16 | 54.4 | 144.1 | -1.4 | | -22.2 | -13 | 380 | No stop |
| 23 10 58 | --- | 18 05 47 | 54.7 | 145.4 | -1.4 | | -21.5 | 197 | 387 | 23 07 29 |

Schedule for TORUN (Code Tr ) Page 7

No description given.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 16 Jun 2014 Day 167 --- | | | | | | | | | | |
| 23 11 30 | J1925+2106 | 18 06 19 | 54.5 | 146.5 | -1.3 | | -20.8 | 18 | 387 | 23 11 30 |
| 23 13 30 | =1923+210 | 18 08 19 | 54.7 | 147.3 | -1.3 | | -20.4 | 120 | 390 | 23 11 31 |
| 23 13 30 | K3-35 | 18 08 19 | 54.9 | 146.4 | -1.3 | | -21.0 | -13 | 390 | No stop |
| 23 17 00 | --- | 18 11 50 | 55.2 | 147.7 | -1.3 | | -20.2 | 197 | 397 | 23 13 31 |
| 23 17 32 | J1925+2106 | 18 12 22 | 55.0 | 148.8 | -1.2 | | -19.5 | 18 | 397 | 23 17 32 |
| 23 19 32 | =1923+210 | 18 14 22 | 55.2 | 149.6 | -1.2 | | -19.0 | 120 | 401 | 23 17 33 |
| 23 19 32 | K3-35 | 18 14 22 | 55.4 | 148.7 | -1.2 | | -19.6 | -13 | 401 | No stop |
| 23 23 02 | --- | 18 17 53 | 55.7 | 150.0 | -1.2 | | -18.8 | 197 | 408 | 23 19 33 |
| 23 23 34 | J1925+2106 | 18 18 25 | 55.5 | 151.1 | -1.1 | | -18.1 | 18 | 408 | 23 23 34 |
| 23 25 34 | =1923+210 | 18 20 25 | 55.6 | 151.9 | -1.1 | | -17.6 | 120 | 412 | 23 23 35 |
| 23 25 34 | K3-35 | 18 20 25 | 55.9 | 151.0 | -1.1 | | -18.2 | -13 | 412 | No stop |
| 23 29 04 | --- | 18 23 56 | 56.1 | 152.4 | -1.1 | | -17.4 | 197 | 418 | 23 25 35 |
| 23 29 36 | J1925+2106 | 18 24 28 | 55.9 | 153.5 | -1.0 | | -16.7 | 18 | 418 | 23 29 36 |
| 23 31 36 | =1923+210 | 18 26 28 | 56.0 | 154.3 | -1.0 | | -16.2 | 120 | 422 | 23 29 37 |
| 23 31 36 | K3-35 | 18 26 28 | 56.3 | 153.4 | -1.0 | | -16.8 | -13 | 422 | No stop |
| 23 35 06 | --- | 18 29 59 | 56.5 | 154.8 | -1.0 | | -15.9 | 197 | 429 | 23 31 37 |
| 23 35 38 | J1925+2106 | 18 30 31 | 56.3 | 156.0 | -0.9 | | -15.2 | 18 | 429 | 23 35 38 |
| 23 37 38 | =1923+210 | 18 32 31 | 56.4 | 156.8 | -0.9 | | -14.7 | 120 | 433 | 23 35 39 |
| 23 37 38 | K3-35 | 18 32 31 | 56.7 | 155.9 | -0.9 | | -15.3 | -13 | 433 | No stop |
| 23 41 08 | --- | 18 36 02 | 56.9 | 157.3 | -0.9 | | -14.4 | 197 | 439 | 23 37 39 |
| 23 41 40 | J1925+2106 | 18 36 34 | 56.6 | 158.4 | -0.8 | | -13.7 | 18 | 439 | 23 41 40 |
| 23 43 40 | =1923+210 | 18 38 34 | 56.7 | 159.3 | -0.8 | | -13.2 | 120 | 443 | 23 41 41 |
| 23 43 40 | K3-35 | 18 38 34 | 57.0 | 158.4 | -0.8 | | -13.8 | -13 | 443 | No stop |
| 23 47 10 | --- | 18 42 05 | 57.2 | 159.8 | -0.8 | | -12.9 | 197 | 450 | 23 43 41 |
| 23 47 42 | J1925+2106 | 18 42 37 | 56.9 | 160.9 | -0.7 | | -12.1 | 18 | 450 | 23 47 42 |
| 23 49 42 | =1923+210 | 18 44 37 | 57.0 | 161.8 | -0.7 | | -11.6 | 120 | 454 | 23 47 43 |
| 23 52 27 | J2136+0041 | 18 47 23 | 27.0 | 130.7 | -2.8 | | -27.1 | 38 | 454 | 23 52 27 |
| 23 56 27 | =2134+00 | 18 51 33 | 27.4 | 131.8 | -2.8 | | -26.6 | 240 | 462 | 23 52 28 |

Schedule for TORUN (Code Tr ) Page 8

No description given.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Stop ParA | Early / Dwell | Disk GBytes | TPStart / SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Start: Mon 16 Jun 2014 Day 167 -- Stop: Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 23 59 14 | J1925+2106 | 18 54 10 | 57.4 | 165.8 | -0.5 | | -9.1 | 40 | 462 | 23 59 14 |
| 00 01 14 | =1923+210 | 18 56 20 | 57.5 | 166.8 | -0.5 | | -8.5 | 120 | 465 | 23 59 15 |
| 00 01 14 | K3-35 | 18 56 10 | 57.8 | 165.8 | -0.5 | | -9.1 | -13 | 465 | No stop |
| 00 04 44 | --- | 18 59 41 | 58.0 | 167.3 | -0.5 | | -8.1 | 197 | 472 | 00 01 15 |
| 00 05 17 | J1925+2106 | 19 00 14 | 57.6 | 168.4 | -0.4 | | -7.4 | 19 | 472 | 00 05 17 |
| 00 07 17 | =1923+210 | 19 02 14 | 57.7 | 169.3 | -0.4 | | -6.9 | 120 | 476 | 00 05 18 |
| 00 07 17 | K3-35 | 19 02 14 | 58.0 | 168.5 | -0.4 | | -7.4 | -13 | 476 | No stop |
| 00 10 47 | --- | 19 05 45 | 58.1 | 170.0 | -0.4 | | -6.4 | 197 | 483 | 00 07 18 |
| 00 11 20 | J1925+2106 | 19 06 18 | 57.8 | 171.1 | -0.3 | | -5.7 | 19 | 483 | 00 11 20 |
| 00 13 20 | =1923+210 | 19 08 18 | 57.8 | 171.9 | -0.3 | | -5.2 | 120 | 487 | 00 11 21 |
| 00 13 20 | K3-35 | 19 08 18 | 58.2 | 171.1 | -0.3 | | -5.7 | -13 | 487 | No stop |
| 00 16 50 | --- | 19 11 49 | 58.3 | 172.7 | -0.3 | | -4.7 | 197 | 493 | 00 13 21 |
| 00 17 23 | J1925+2106 | 19 12 22 | 57.9 | 173.7 | -0.2 | | -4.0 | 20 | 493 | 00 17 23 |
| 00 19 23 | =1923+210 | 19 14 22 | 58.0 | 174.6 | -0.2 | | -3.5 | 120 | 497 | 00 17 24 |
| 00 19 23 | K3-35 | 19 14 22 | 58.3 | 173.8 | -0.2 | | -4.0 | -13 | 497 | No stop |
| 00 22 53 | --- | 19 17 53 | 58.4 | 175.3 | -0.2 | | -3.0 | 197 | 504 | 00 19 24 |
| 00 23 26 | J1925+2106 | 19 18 26 | 58.0 | 176.4 | -0.1 | | -2.3 | 20 | 504 | 00 23 26 |
| 00 25 26 | =1923+210 | 19 20 26 | 58.0 | 177.3 | -0.1 | | -1.8 | 120 | 508 | 00 23 27 |
| 00 25 26 | K3-35 | 19 20 26 | 58.4 | 176.5 | -0.1 | | -2.3 | -13 | 508 | No stop |
| 00 28 56 | --- | 19 23 57 | 58.4 | 178.0 | -0.1 | | -1.3 | 197 | 514 | 00 25 27 |
| 00 29 29 | J1925+2106 | 19 24 30 | 58.0 | 179.1 | -0.0 | | -0.6 | 20 | 514 | 00 29 29 |
| 00 31 29 | =1923+210 | 19 26 30 | 58.0 | 179.9 | -0.0 | | -0.0 | 120 | 518 | 00 29 30 |
| 00 31 29 | K3-35 | 19 26 30 | 58.4 | 179.2 | -0.0 | | -0.5 | -13 | 518 | No stop |
| 00 34 59 | --- | 19 30 01 | 58.4 | 180.7 | 0.0 | | 0.5 | 197 | 525 | 00 31 30 |
| 00 35 32 | J1925+2106 | 19 30 34 | 58.0 | 181.7 | 0.1 | | 1.1 | 20 | 525 | 00 35 32 |
| 00 37 32 | =1923+210 | 19 32 34 | 58.0 | 182.6 | 0.1 | | 1.7 | 120 | 529 | 00 35 33 |
| 00 37 32 | K3-35 | 19 32 34 | 58.4 | 181.9 | 0.1 | | 1.2 | -12 | 529 | No stop |
| 00 41 02 | --- | 19 36 05 | 58.4 | 183.4 | 0.1 | | 2.2 | 198 | 536 | 00 37 33 |
| 00 41 35 | J1925+2106 | 19 36 38 | 58.0 | 184.4 | 0.2 | | 2.8 | 20 | 536 | 00 41 35 |
| 00 43 35 | =1923+210 | 19 38 38 | 58.0 | 185.3 | 0.2 | | 3.4 | 120 | 539 | 00 41 36 |
| 00 43 35 | K3-35 | 19 38 38 | 58.4 | 184.6 | 0.2 | | 2.9 | -12 | 539 | No stop |
| 00 47 05 | --- | 19 42 09 | 58.3 | 186.1 | 0.2 | | 3.9 | 198 | 546 | 00 43 36 |

Schedule for TORUN (Code Tr ) Page 9

No description given.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 00 47 38 | J1925+2106 | 19 42 42 | 57.9 | 187.1 | 0.3 | | 4.5 | 20 | 546 | 00 47 38 |
| 00 49 38 | =1923+210 | 19 44 42 | 57.9 | 187.9 | 0.3 | | 5.1 | 120 | 550 | 00 47 39 |
| 00 49 38 | K3-35 | 19 44 42 | 58.3 | 187.2 | 0.3 | | 4.7 | -13 | 550 | No stop |
| 00 53 08 | --- | 19 48 13 | 58.2 | 188.8 | 0.3 | | 5.7 | 197 | 557 | 00 49 39 |
| 00 53 41 | J1925+2106 | 19 48 46 | 57.8 | 189.7 | 0.4 | | 6.2 | 20 | 557 | 00 53 41 |
| 00 55 41 | =1923+210 | 19 50 46 | 57.7 | 190.6 | 0.4 | | 6.8 | 120 | 561 | 00 53 42 |
| 00 55 41 | K3-35 | 19 50 46 | 58.1 | 189.9 | 0.4 | | 6.4 | -13 | 561 | No stop |
| 00 59 11 | --- | 19 54 17 | 58.0 | 191.4 | 0.4 | | 7.4 | 197 | 567 | 00 55 42 |
| 00 59 44 | J1925+2106 | 19 54 50 | 57.6 | 192.3 | 0.5 | | 7.9 | 20 | 567 | 00 59 44 |
| 01 01 44 | =1923+210 | 19 56 50 | 57.5 | 193.2 | 0.5 | | 8.4 | 120 | 571 | 00 59 45 |
| 01 01 44 | K3-35 | 19 56 50 | 58.0 | 192.5 | 0.5 | | 8.1 | -13 | 571 | No stop |
| 01 05 14 | --- | 20 00 21 | 57.8 | 194.1 | 0.5 | | 9.0 | 197 | 578 | 01 01 45 |
| 01 05 47 | J1925+2106 | 20 00 54 | 57.4 | 194.9 | 0.6 | | 9.5 | 20 | 578 | 01 05 47 |
| 01 07 47 | =1923+210 | 20 02 54 | 57.3 | 195.8 | 0.6 | | 10.1 | 120 | 582 | 01 05 48 |
| 01 07 47 | K3-35 | 20 02 54 | 57.8 | 195.2 | 0.6 | | 9.7 | -13 | 582 | No stop |
| 01 11 17 | --- | 20 06 25 | 57.6 | 196.7 | 0.6 | | 10.7 | 197 | 588 | 01 07 48 |
| 01 11 50 | J1925+2106 | 20 06 58 | 57.1 | 197.5 | 0.7 | | 11.2 | 20 | 588 | 01 11 50 |
| 01 13 50 | =1923+210 | 20 08 58 | 57.0 | 198.3 | 0.7 | | 11.7 | 120 | 592 | 01 11 51 |
| 01 13 50 | K3-35 | 20 08 58 | 57.5 | 197.8 | 0.7 | | 11.4 | -13 | 592 | No stop |
| 01 17 20 | --- | 20 12 29 | 57.3 | 199.2 | 0.7 | | 12.3 | 197 | 599 | 01 13 51 |
| 01 17 53 | J1925+2106 | 20 13 02 | 56.8 | 200.0 | 0.8 | | 12.7 | 20 | 599 | 01 17 53 |
| 01 19 53 | =1923+210 | 20 15 02 | 56.7 | 200.9 | 0.8 | | 13.3 | 120 | 603 | 01 17 54 |
| 01 19 53 | K3-35 | 20 15 02 | 57.2 | 200.3 | 0.8 | | 12.9 | -13 | 603 | No stop |
| 01 23 23 | --- | 20 18 33 | 57.0 | 201.8 | 0.8 | | 13.9 | 197 | 610 | 01 19 54 |
| 01 23 56 | J1925+2106 | 20 19 06 | 56.5 | 202.5 | 0.9 | | 14.3 | 20 | 610 | 01 23 56 |
| 01 25 56 | =1923+210 | 20 21 06 | 56.4 | 203.4 | 0.9 | | 14.8 | 120 | 613 | 01 23 57 |
| 01 28 17 | J1751+0939 | 20 23 28 | 37.0 | 229.2 | 2.5 | | 27.4 | 55 | 613 | 01 28 17 |
| 01 32 17 | =1749+096 | 20 27 39 | 36.5 | 230.3 | 2.6 | | 27.9 | 240 | 621 | 01 28 18 |
| 01 34 32 | J1925+2106 | 20 29 44 | 55.8 | 206.8 | 1.1 | | 16.9 | 48 | 621 | 01 34 32 |
| 01 36 32 | =1923+210 | 20 31 55 | 55.7 | 207.7 | 1.1 | | 17.4 | 120 | 625 | 01 34 33 |
| 01 36 32 | K3-35 | 20 31 44 | 56.2 | 207.1 | 1.1 | | 17.1 | -13 | 625 | No stop |
| 01 40 02 | --- | 20 35 15 | 55.9 | 208.5 | 1.1 | | 18.0 | 197 | 632 | 01 36 33 |

Schedule for TORUN (Code Tr ) Page 10

No description given.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 01 40 33 | J1925+2106 | 20 35 46 | 55.4 | 209.2 | 1.2 | | 18.3 | 18 | 632 | 01 40 33 |
| 01 42 33 | =1923+210 | 20 37 46 | 55.3 | 210.0 | 1.2 | | 18.8 | 120 | 636 | 01 40 34 |
| 01 42 33 | K3-35 | 20 37 46 | 55.8 | 209.5 | 1.2 | | 18.6 | -13 | 636 | No stop |
| 01 46 03 | --- | 20 41 17 | 55.5 | 210.9 | 1.2 | | 19.4 | 197 | 642 | 01 42 34 |
| 01 46 34 | J1925+2106 | 20 41 48 | 54.9 | 211.5 | 1.3 | | 19.7 | 18 | 642 | 01 46 34 |
| 01 48 34 | =1923+210 | 20 43 48 | 54.8 | 212.3 | 1.3 | | 20.1 | 120 | 646 | 01 46 35 |
| 01 48 34 | K3-35 | 20 43 48 | 55.3 | 211.9 | 1.3 | | 19.9 | -13 | 646 | No stop |
| 01 52 04 | --- | 20 47 19 | 55.0 | 213.2 | 1.3 | | 20.7 | 197 | 653 | 01 48 35 |
| 01 52 35 | J1925+2106 | 20 47 50 | 54.5 | 213.8 | 1.4 | | 21.0 | 18 | 653 | 01 52 35 |
| 01 54 35 | =1923+210 | 20 49 50 | 54.3 | 214.6 | 1.4 | | 21.4 | 120 | 657 | 01 52 36 |
| 01 54 35 | K3-35 | 20 49 50 | 54.8 | 214.2 | 1.4 | | 21.3 | -13 | 657 | No stop |
| 01 58 05 | --- | 20 53 21 | 54.5 | 215.5 | 1.4 | | 22.0 | 197 | 663 | 01 54 36 |
| 01 58 36 | J1925+2106 | 20 53 52 | 53.9 | 216.1 | 1.5 | | 22.3 | 18 | 663 | 01 58 36 |
| 02 00 36 | =1923+210 | 20 55 52 | 53.8 | 216.8 | 1.5 | | 22.7 | 120 | 667 | 01 58 37 |
| 02 00 36 | K3-35 | 20 55 52 | 54.3 | 216.4 | 1.5 | | 22.5 | -13 | 667 | No stop |
| 02 04 06 | --- | 20 59 23 | 54.0 | 217.7 | 1.5 | | 23.2 | 197 | 674 | 02 00 37 |
| 02 04 37 | J1925+2106 | 20 59 54 | 53.4 | 218.2 | 1.6 | | 23.5 | 18 | 674 | 02 04 37 |
| 02 06 37 | =1923+210 | 21 01 54 | 53.2 | 219.0 | 1.6 | | 23.9 | 120 | 678 | 02 04 38 |
| 02 06 37 | K3-35 | 21 01 54 | 53.7 | 218.6 | 1.6 | | 23.8 | -13 | 678 | No stop |
| 02 10 07 | --- | 21 05 25 | 53.4 | 219.9 | 1.6 | | 24.4 | 197 | 685 | 02 06 38 |
| 02 10 38 | J1925+2106 | 21 05 56 | 52.8 | 220.4 | 1.7 | | 24.7 | 18 | 685 | 02 10 38 |
| 02 12 38 | =1923+210 | 21 07 56 | 52.6 | 221.1 | 1.7 | | 25.0 | 120 | 688 | 02 10 39 |
| 02 12 38 | K3-35 | 21 07 56 | 53.1 | 220.7 | 1.7 | | 24.9 | -13 | 688 | No stop |
| 02 16 08 | --- | 21 11 27 | 52.8 | 222.0 | 1.7 | | 25.6 | 197 | 695 | 02 12 39 |
| 02 16 39 | J1925+2106 | 21 11 58 | 52.2 | 222.5 | 1.8 | | 25.8 | 17 | 695 | 02 16 39 |
| 02 18 39 | =1923+210 | 21 13 58 | 52.0 | 223.2 | 1.8 | | 26.1 | 120 | 699 | 02 16 40 |
| 02 18 39 | K3-35 | 21 13 58 | 52.5 | 222.8 | 1.8 | | 26.0 | -13 | 699 | No stop |
| 02 22 09 | --- | 21 17 29 | 52.2 | 224.0 | 1.8 | | 26.7 | 197 | 706 | 02 18 40 |
| 02 22 40 | J1925+2106 | 21 18 00 | 51.6 | 224.5 | 1.9 | | 26.8 | 17 | 706 | 02 22 40 |
| 02 24 40 | =1923+210 | 21 20 00 | 51.4 | 225.2 | 1.9 | | 27.2 | 120 | 710 | 02 22 41 |
| 02 24 40 | K3-35 | 21 20 00 | 51.9 | 224.9 | 1.9 | | 27.1 | -13 | 710 | No stop |
| 02 28 10 | --- | 21 23 31 | 51.5 | 226.1 | 1.9 | | 27.7 | 197 | 716 | 02 24 41 |

Schedule for TORUN (Code Tr ) Page 11

No description given.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 02 28 41 | J1925+2106 | 21 24 02 | 50.9 | 226.5 | 2.0 | | 27.8 | 17 | 716 | 02 28 41 |
| 02 30 41 | =1923+210 | 21 26 02 | 50.7 | 227.2 | 2.0 | | 28.2 | 120 | 720 | 02 28 42 |
| 02 30 41 | K3-35 | 21 26 02 | 51.3 | 226.9 | 2.0 | | 28.1 | -13 | 720 | No stop |
| 02 34 11 | --- | 21 29 33 | 50.9 | 228.0 | 2.0 | | 28.7 | 197 | 727 | 02 30 42 |
| 02 34 42 | J1925+2106 | 21 30 04 | 50.3 | 228.5 | 2.1 | | 28.8 | 17 | 727 | 02 34 42 |
| 02 36 42 | =1923+210 | 21 32 04 | 50.1 | 229.1 | 2.1 | | 29.1 | 120 | 731 | 02 34 43 |
| 02 36 42 | K3-35 | 21 32 04 | 50.6 | 228.9 | 2.1 | | 29.1 | -13 | 731 | No stop |
| 02 40 12 | --- | 21 35 35 | 50.2 | 230.0 | 2.1 | | 29.6 | 197 | 737 | 02 36 43 |
| 02 40 43 | J1925+2106 | 21 36 06 | 49.6 | 230.4 | 2.2 | | 29.7 | 17 | 737 | 02 40 43 |
| 02 42 43 | =1923+210 | 21 38 06 | 49.4 | 231.0 | 2.2 | | 30.0 | 120 | 741 | 02 40 44 |
| 02 42 43 | K3-35 | 21 38 06 | 49.9 | 230.8 | 2.2 | | 30.0 | -13 | 741 | No stop |
| 02 46 13 | --- | 21 41 37 | 49.5 | 231.8 | 2.2 | | 30.5 | 197 | 748 | 02 42 44 |
| 02 46 44 | J1925+2106 | 21 42 08 | 48.9 | 232.2 | 2.3 | | 30.6 | 17 | 748 | 02 46 44 |
| 02 48 44 | =1923+210 | 21 44 08 | 48.6 | 232.8 | 2.3 | | 30.9 | 120 | 752 | 02 46 45 |
| 02 48 44 | K3-35 | 21 44 08 | 49.2 | 232.6 | 2.3 | | 30.9 | -13 | 752 | No stop |
| 02 52 14 | --- | 21 47 39 | 48.8 | 233.7 | 2.3 | | 31.3 | 197 | 759 | 02 48 45 |
| 02 52 45 | J1925+2106 | 21 48 10 | 48.2 | 234.1 | 2.4 | | 31.4 | 17 | 759 | 02 52 45 |
| 02 54 45 | =1923+210 | 21 50 10 | 47.9 | 234.7 | 2.4 | | 31.7 | 120 | 762 | 02 52 46 |
| 02 54 45 | K3-35 | 21 50 10 | 48.5 | 234.4 | 2.4 | | 31.7 | -13 | 762 | No stop |
| 02 58 15 | --- | 21 53 41 | 48.0 | 235.5 | 2.4 | | 32.1 | 197 | 769 | 02 54 46 |
| 02 58 45 | J1925+2106 | 21 54 11 | 47.4 | 235.8 | 2.5 | | 32.2 | 16 | 769 | 02 58 45 |
| 03 00 45 | =1923+210 | 21 56 11 | 47.2 | 236.4 | 2.5 | | 32.4 | 120 | 773 | 02 58 46 |
| 03 02 45 | J1751+0939 | 21 58 11 | 24.6 | 252.3 | 4.1 | | 35.5 | 21 | 773 | 03 02 45 |
| 03 05 45 | =1749+096 | 22 01 22 | 24.2 | 253.0 | 4.2 | | 35.6 | 180 | 779 | 03 02 46 |
| 03 07 43 | J1925+2106 | 22 03 11 | 46.3 | 238.4 | 2.6 | | 33.3 | 22 | 779 | 03 07 43 |
| 03 09 43 | =1923+210 | 22 05 21 | 46.0 | 239.0 | 2.6 | | 33.5 | 120 | 783 | 03 07 44 |
| 03 09 43 | K3-35 | 22 05 11 | 46.6 | 238.8 | 2.6 | | 33.5 | -14 | 783 | No stop |
| 03 13 13 | --- | 22 08 42 | 46.1 | 239.8 | 2.7 | | 33.9 | 196 | 789 | 03 09 44 |
| 03 13 43 | J1925+2106 | 22 09 12 | 45.5 | 240.1 | 2.7 | | 33.9 | 16 | 789 | 03 13 43 |
| 03 15 43 | =1923+210 | 22 11 12 | 45.2 | 240.6 | 2.7 | | 34.1 | 120 | 793 | 03 13 44 |
| 03 15 43 | K3-35 | 22 11 12 | 45.8 | 240.5 | 2.7 | | 34.2 | -13 | 793 | No stop |
| 03 19 13 | --- | 22 14 43 | 45.3 | 241.4 | 2.8 | | 34.5 | 197 | 800 | 03 15 44 |

Schedule for TORUN (Code Tr ) Page 12

No description given.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 03 19 43 | J1925+2106 | 22 15 13 | 44.7 | 241.7 | 2.8 | | 34.5 | 16 | 800 | 03 19 43 |
| 03 21 43 | =1923+210 | 22 17 13 | 44.5 | 242.3 | 2.8 | | 34.7 | 120 | 804 | 03 19 44 |
| 03 21 43 | K3-35 | 22 17 13 | 45.0 | 242.1 | 2.8 | | 34.8 | -13 | 804 | No stop |
| 03 25 13 | --- | 22 20 44 | 44.5 | 243.1 | 2.9 | | 35.1 | 197 | 811 | 03 21 44 |
| 03 25 43 | J1925+2106 | 22 21 14 | 43.9 | 243.3 | 2.9 | | 35.1 | 16 | 811 | 03 25 43 |
| 03 27 43 | =1923+210 | 22 23 14 | 43.7 | 243.9 | 2.9 | | 35.3 | 120 | 814 | 03 25 44 |
| 03 27 43 | K3-35 | 22 23 14 | 44.2 | 243.7 | 2.9 | | 35.4 | -13 | 814 | No stop |
| 03 31 13 | --- | 22 26 45 | 43.7 | 244.7 | 3.0 | | 35.7 | 197 | 821 | 03 27 44 |
| 03 31 43 | J1925+2106 | 22 27 15 | 43.1 | 244.9 | 3.0 | | 35.7 | 16 | 821 | 03 31 43 |
| 03 33 43 | =1923+210 | 22 29 15 | 42.8 | 245.4 | 3.0 | | 35.8 | 120 | 825 | 03 31 44 |
| 03 33 43 | K3-35 | 22 29 15 | 43.4 | 245.3 | 3.0 | | 35.9 | -13 | 825 | No stop |
| 03 37 13 | --- | 22 32 46 | 42.9 | 246.2 | 3.1 | | 36.2 | 197 | 832 | 03 33 44 |
| 03 37 43 | J1925+2106 | 22 33 16 | 42.3 | 246.5 | 3.1 | | 36.2 | 16 | 832 | 03 37 43 |
| 03 39 43 | =1923+210 | 22 35 16 | 42.0 | 247.0 | 3.1 | | 36.3 | 120 | 836 | 03 37 44 |
| 03 39 43 | K3-35 | 22 35 16 | 42.6 | 246.9 | 3.1 | | 36.4 | -13 | 836 | No stop |
| 03 43 13 | --- | 22 38 47 | 42.1 | 247.7 | 3.2 | | 36.7 | 197 | 842 | 03 39 44 |
| 03 43 43 | J1925+2106 | 22 39 17 | 41.5 | 248.0 | 3.2 | | 36.6 | 16 | 842 | 03 43 43 |
| 03 45 43 | =1923+210 | 22 41 17 | 41.2 | 248.5 | 3.2 | | 36.8 | 120 | 846 | 03 43 44 |
| 03 45 43 | K3-35 | 22 41 17 | 41.7 | 248.4 | 3.2 | | 36.9 | -13 | 846 | No stop |
| 03 49 13 | --- | 22 44 48 | 41.2 | 249.2 | 3.3 | | 37.1 | 197 | 853 | 03 45 44 |
| 03 49 43 | J1925+2106 | 22 45 18 | 40.6 | 249.5 | 3.3 | | 37.1 | 16 | 853 | 03 49 43 |
| 03 51 43 | =1923+210 | 22 47 18 | 40.3 | 250.0 | 3.3 | | 37.2 | 120 | 857 | 03 49 44 |
| 03 51 43 | K3-35 | 22 47 18 | 40.9 | 249.9 | 3.3 | | 37.3 | -13 | 857 | No stop |
| 03 55 13 | --- | 22 50 49 | 40.4 | 250.7 | 3.4 | | 37.5 | 197 | 863 | 03 51 44 |
| 03 55 43 | J1925+2106 | 22 51 19 | 39.8 | 250.9 | 3.4 | | 37.5 | 16 | 863 | 03 55 43 |
| 03 57 43 | =1923+210 | 22 53 19 | 39.5 | 251.4 | 3.4 | | 37.6 | 120 | 867 | 03 55 44 |
| 03 57 43 | K3-35 | 22 53 19 | 40.0 | 251.3 | 3.4 | | 37.7 | -13 | 867 | No stop |
| 04 01 13 | --- | 22 56 50 | 39.5 | 252.1 | 3.5 | | 37.9 | 197 | 874 | 03 57 44 |
| 04 01 43 | J1925+2106 | 22 57 20 | 38.9 | 252.4 | 3.5 | | 37.8 | 16 | 874 | 04 01 43 |
| 04 03 43 | =1923+210 | 22 59 20 | 38.6 | 252.8 | 3.5 | | 38.0 | 120 | 878 | 04 01 44 |
| 04 03 43 | K3-35 | 22 59 20 | 39.2 | 252.7 | 3.5 | | 38.1 | -13 | 878 | No stop |
| 04 07 13 | --- | 23 02 51 | 38.7 | 253.6 | 3.6 | | 38.3 | 197 | 885 | 04 03 44 |

Schedule for TORUN (Code Tr ) Page 13

No description given.

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 04 07 43 | J1925+2106 | 23 03 21 | 38.0 | 253.8 | 3.6 | | 38.2 | 16 | 885 | 04 07 43 |
| 04 09 43 | =1923+210 | 23 05 21 | 37.7 | 254.2 | 3.6 | | 38.3 | 120 | 888 | 04 07 44 |
| 04 09 43 | K3-35 | 23 05 21 | 38.3 | 254.2 | 3.6 | | 38.4 | -13 | 888 | No stop |
| 04 13 13 | --- | 23 08 52 | 37.8 | 255.0 | 3.7 | | 38.6 | 197 | 895 | 04 09 44 |
| 04 13 43 | J1925+2106 | 23 09 22 | 37.2 | 255.2 | 3.7 | | 38.5 | 16 | 895 | 04 13 43 |
| 04 15 43 | =1923+210 | 23 11 22 | 36.9 | 255.6 | 3.7 | | 38.6 | 120 | 899 | 04 13 44 |
| 04 17 49 | J1751+0939 | 23 13 28 | 13.5 | 268.1 | 5.4 | | 37.5 | 24 | 899 | 04 17 49 |
| 04 20 49 | =1749+096 | 23 16 38 | 13.0 | 268.7 | 5.4 | | 37.5 | 180 | 905 | 04 17 50 |

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: sess214.EOH256
--- WARNING --- This group does not match an entry in the frequency catalog.
This might be ok because the catalog is not complete.
But be very careful to be sure that the setup is correct.

Setup group: 7 Station: TORUN Total bit rate: 256
Format: MARK5B Bits per sample: 2 Sample rate: 8.000
Number of channels: 16 DBE type: Speedup factor: 1.00

Disk used to record data.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1st LO= | 5400.00 | 5400.00 | 5400.00 | 5400.00 | 5400.00 | 5400.00 | 5400.00 | 5400.00 |
| | 5400.00 | 5400.00 | 5400.00 | 5400.00 | 5400.00 | 5400.00 | 5400.00 | 5400.00 |
| Net SB= | L | L | U | U | L | L | U | U |
| | L | L | U | U | L | L | U | U |
| IF SB = | U | U | U | U | U | U | U | U |
| | U | U | U | U | U | U | U | U |
| Pol. = | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| BBC = | 1 | 5 | 1 | 5 | 2 | 6 | 2 | 6 |
| | 3 | 7 | 3 | 7 | 4 | 8 | 4 | 8 |
| BBC SB= | L | L | U | U | L | L | U | U |
| | L | L | U | U | L | L | U | U |
| IF = | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |
| | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |

The following frequency sets based on these setups were used.

Frequency Set: 6 Based on FREQ, BW, and/or DOPPLER in schedule. Used with PCAL = off

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| LO sum= | 6029.28 | 6029.28 | 6029.28 | 6029.28 | 6037.28 | 6037.28 | 6037.28 | 6037.28 |
| | 6045.28 | 6045.28 | 6045.28 | 6045.28 | 6053.28 | 6053.28 | 6053.28 | 6053.28 |
| BBC fr= | 629.28 | 629.28 | 629.28 | 629.28 | 637.28 | 637.28 | 637.28 | 637.28 |
| | 645.28 | 645.28 | 645.28 | 645.28 | 653.28 | 653.28 | 653.28 | 653.28 |
| Bandwd= | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |

Matching frequency sets: 6

Track assignments are:
track1= 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
barrel=roll_off

## POSITIONS OF SOURCES USED IN RECORDING SCANS

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * K3-35 | 19 25 34.626684 | * 19 27 44.021300 | 19 28 23.186277 | 0.00 |
| | 21 23 53.46244 | * 21 30 03.41500 | 21 31 57.50635 | 0.00 |
| J1407+2827 | 14 04 45.615156 | * 14 07 00.394414 | 14 07 40.370269 | 0.24 |
| * OQ208 | 28 41 29.23519 | * 28 27 14.69022 | 28 23 17.85223 | 0.34 |
| * J1751+0939 | 17 49 10.387929 | * 17 51 32.818572 | 17 52 15.777248 | 0.10 |
| 1749+096 | 09 39 42.82574 | * 09 39 00.72829 | 09 38 58.51368 | 0.10 |
| * J1925+2106 | 19 23 49.792391 | * 19 25 59.605354 | 19 26 38.890407 | 0.11 |
| 1923+210 | 21 00 23.30482 | * 21 06 26.16190 | 21 08 18.32106 | 0.10 |
| * J2136+0041 | 21 34 05.207371 | * 21 36 38.586306 | 21 37 24.061622 | 0.74 |
| 2134+00 | 00 28 25.08000 | * 00 41 54.21282 | 00 45 56.12326 | 1.25 |

## EFFECT OF SOLAR CORONA

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) |
|---|---|
| K3-35 | 128.1 |
| OQ208 | 107.0 |
| J1751+0939 | 146.9 |
| J1925+2106 | 128.7 |
| J2136+0041 | 117.9 |

# n14k2tr

NME + FTP FT

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Notes: 1.3cm NME + FTP FT for session 2/2014
1024 Mbps, 2-bit sampling, 16 MHz filters
Participation from Sr (with DBBC) is expected
Additional DBBC testing with Ys is also scheduled

COVER LETTER:

Dear EVN friends,

This is the schedule for the 1.3cm NME+FTP-FT on June 17 2014,
involving 16 stations: Eb Jb2 On20 Nt Tr Sv Zc Bd Sh Ys Sr Mh
Kt Ku Ky Yd.
The session uses a setup with 1024 Mbps and consists
of three ftp fringe tests, interspersed with a longer set of
scans on 0836+710 (~2 Jy source at 2cm, although not pointlike).

The three ftp fringe-test scans, start at:

(1) 12:07:28 UT (scan 2, 2 sec)

(2) 13:29:58 UT (scan 12, 2 sec)

(3) 14:53:58 UT (scan 23, 2 sec)

See you on Skype group chat
and
Good luck with the session!

Ivan
Support Scientist, JIVE
Skype account: JIVE.Support.Scientist

Schedule for TORUN (Code Tr ) Page 2

NME + FTP FT

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| Next scan frequencies: | | 22187.49 | 22187.49 | 22187.49 | 22187.49 | 22219.49 | 22219.49 | 22219.49 | 22219.4 | |
| | | 22251.49 | 22251.49 | 22251.49 | 22251.49 | 22283.49 | 22283.49 | 22283.49 | 22283.4 | |
| Next BBC frequencies: | | 687.49 | 687.49 | 687.49 | 687.49 | 719.49 | 719.49 | 719.49 | 719.4 | |
| | | 751.49 | 751.49 | 751.49 | 751.49 | 783.49 | 783.49 | 783.49 | 783.4 | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.0 | |
| | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.0 | |
| 12 00 00 | 0836+710 | 06 56 55 | 68.7 | 23.8 | -1.8 | | -132.5 | 0 | 0 | 12 00 00 |
| 12 04 00 | --- | 07 00 55 | 68.9 | 23.1 | -1.7 | | -134.0 | 240 | 31 | 12 00 01 |
| ---------- FTP scan ---------- | | | | | | | | | | |
| 12 04 30 | 0836+710 | 07 01 26 | 69.0 | 23.1 | -1.7 | | -134.2 | 24 | 31 | 12 04 30 |
| 12 08 30 | --- | 07 05 26 | 69.2 | 22.4 | -1.6 | | -135.8 | 240 | 62 | 12 04 31 |
| ---------- ~2 min gap, perhaps useful for pointing! ---------- | | | | | | | | | | |
| 12 10 30 | 0836+710 | 07 07 27 | 69.3 | 22.1 | -1.6 | | -136.6 | 114 | 62 | 12 10 30 |
| 12 18 30 | --- | 07 15 28 | 69.8 | 20.7 | -1.5 | | -139.8 | 480 | 123 | 12 10 31 |
| 12 19 00 | 0836+710 | 07 15 58 | 69.8 | 20.6 | -1.4 | | -140.0 | 24 | 123 | 12 19 00 |
| 12 27 00 | --- | 07 23 59 | 70.2 | 19.1 | -1.3 | | -143.3 | 480 | 185 | 12 19 01 |
| 12 27 30 | 0836+710 | 07 24 29 | 70.2 | 19.0 | -1.3 | | -143.5 | 24 | 185 | 12 27 30 |
| 12 35 30 | --- | 07 32 31 | 70.6 | 17.4 | -1.2 | | -146.9 | 480 | 246 | 12 27 31 |
| 12 36 00 | 0836+710 | 07 33 01 | 70.6 | 17.2 | -1.2 | | -147.1 | 24 | 246 | 12 36 00 |
| 12 44 00 | --- | 07 41 02 | 71.0 | 15.5 | -1.0 | | -150.7 | 480 | 308 | 12 36 01 |
| 12 44 30 | 0836+710 | 07 41 32 | 71.0 | 15.4 | -1.0 | | -150.9 | 24 | 308 | 12 44 30 |
| 12 52 30 | --- | 07 49 33 | 71.3 | 13.6 | -0.9 | | -154.5 | 480 | 369 | 12 44 31 |
| 12 53 00 | 0836+710 | 07 50 04 | 71.3 | 13.5 | -0.9 | | -154.7 | 24 | 369 | 12 53 00 |
| 13 01 00 | --- | 07 58 05 | 71.6 | 11.6 | -0.7 | | -158.4 | 480 | 431 | 12 53 01 |
| 13 01 30 | 0836+710 | 07 58 35 | 71.6 | 11.5 | -0.7 | | -158.6 | 24 | 431 | 13 01 30 |
| 13 09 30 | --- | 08 06 36 | 71.8 | 9.5 | -0.6 | | -162.4 | 480 | 492 | 13 01 31 |
| 13 10 00 | 0836+710 | 08 07 06 | 71.8 | 9.4 | -0.6 | | -162.6 | 24 | 492 | 13 10 00 |
| 13 18 00 | --- | 08 15 08 | 72.0 | 7.3 | -0.5 | | -166.5 | 480 | 554 | 13 10 01 |
| 13 18 30 | 0836+710 | 08 15 38 | 72.0 | 7.2 | -0.5 | | -166.7 | 24 | 554 | 13 18 30 |
| 13 26 30 | --- | 08 23 39 | 72.1 | 5.1 | -0.3 | | -170.6 | 480 | 615 | 13 18 31 |

```
Schedule for TORUN     (Code Tr )                                  Page   3
               NME + FTP FT
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes recorded to this point.
  TPStart:  Recording start time.  Frequencies are LO sum (band edge).
  SYNC: Time correlator is expected to sync up.
-------------------------------------------------------------------------------------------
Start UT  Source               Start / Stop                  Early    Disk   TPStart
Stop UT                   LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Tue  17 Jun 2014   Day 168 ---

 ---------- FTP scan ----------

13 27 00  0836+710     08 24 09  72.1   5.0 -0.3    -170.8    24      615   13 27 00
13 31 00  ---          08 28 10  72.2   3.9 -0.2    -172.8   240      646   13 27 01

 ---------- ~2 min gap, perhaps useful for pointing! ----------

13 33 00  0836+710     08 30 10  72.2   3.4 -0.2    -173.8   113      646   13 33 00
13 34 00  ---          08 31 10  72.2   3.1 -0.2    -174.3    60      654   13 33 01

13 34 30  0836+710     08 31 40  72.2   3.0 -0.2    -174.5    24      654   13 34 30
13 42 30  ---          08 39 42  72.2   0.8 -0.1    -178.5   480      715   13 34 31

13 43 00  0836+710     08 40 12  72.2   0.7 -0.0    -178.7    24      715   13 43 00
13 51 00  ---          08 48 13  72.2  -1.5  0.1     177.3   480      777   13 43 01

13 51 30  0836+710     08 48 43  72.2  -1.6  0.1     177.1    24      777   13 51 30
13 59 30  ---          08 56 44  72.2  -3.7  0.2     173.1   480      838   13 51 31

14 00 00  0836+710     08 57 15  72.2  -3.9  0.2     172.9    24      838   14 00 00
14 08 00  ---          09 05 16  72.1  -6.0  0.4     169.0   480      900   14 00 01

14 08 30  0836+710     09 05 46  72.1  -6.1  0.4     168.7    24      900   14 08 30
14 16 30  ---          09 13 47  71.9  -8.2  0.5     164.9   480      962   14 08 31

14 17 00  0836+710     09 14 17  71.9  -8.3  0.5     164.6    24      962   14 17 00
14 25 00  ---          09 22 19  71.7 -10.3  0.7     160.8   480     1023   14 17 01

14 25 30  0836+710     09 22 49  71.7 -10.5  0.7     160.6    24     1023   14 25 30
14 33 30  ---          09 30 50  71.5 -12.4  0.8     156.9   480     1085   14 25 31

14 34 00  0836+710     09 31 20  71.4 -12.5  0.8     156.6    24     1085   14 34 00
14 42 00  ---          09 39 21  71.2 -14.4  0.9     153.0   480     1146   14 34 01

14 42 30  0836+710     09 39 52  71.1 -14.5  1.0     152.8    24     1146   14 42 30
14 50 30  ---          09 47 53  70.8 -16.3  1.1     149.2   480     1208   14 42 31

 ---------- FTP scan ----------

14 51 00  0836+710     09 48 23  70.8 -16.4  1.1     149.0    24     1208   14 51 00
14 55 00  ---          09 52 24  70.6 -17.2  1.2     147.2   240     1238   14 51 01

 ---------- ~2 min gap, perhaps useful for pointing! ----------

14 57 00  0836+710     09 54 24  70.5 -17.6  1.2     146.4   114     1238   14 57 00
15 00 00  ---          09 57 24  70.4 -18.2  1.2     145.1   180     1262   14 57 01
```

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: sess214.K1024

Setup group: 9 Station: TORUN Total bit rate: 1024
Format: MARK5B Bits per sample: 2 Sample rate: 32.000
Number of channels: 16 DBE type: Speedup factor: 1.00

Disk used to record data.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1st LO= | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 |
| | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 |
| Net SB= | L | L | U | U | L | L | U | U |
| | L | L | U | U | L | L | U | U |
| IF SB = | U | U | U | U | U | U | U | U |
| | U | U | U | U | U | U | U | U |
| Pol. = | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| BBC = | 1 | 5 | 1 | 5 | 2 | 6 | 2 | 6 |
| | 3 | 7 | 3 | 7 | 4 | 8 | 4 | 8 |
| BBC SB= | L | L | U | U | L | L | U | U |
| | L | L | U | U | L | L | U | U |
| IF = | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |
| | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |

The following frequency sets based on these setups were used.

Frequency Set: 5 Setup file default. Used with PCAL = off

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| LO sum= | 22187.49 | 22187.49 | 22187.49 | 22187.49 | 22219.49 | 22219.49 | 22219.49 | 22219.49 |
| | 22251.49 | 22251.49 | 22251.49 | 22251.49 | 22283.49 | 22283.49 | 22283.49 | 22283.49 |
| BBC fr= | 687.49 | 687.49 | 687.49 | 687.49 | 719.49 | 719.49 | 719.49 | 719.49 |
| | 751.49 | 751.49 | 751.49 | 751.49 | 783.49 | 783.49 | 783.49 | 783.49 |
| Bandwd= | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 |
| | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 |

Matching frequency sets: 5

Track assignments are:
track1= 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| J0841+7053 | 08 36 21.556645 | * 08 41 24.365283 | 08 42 48.012231 | 0.31 |
| * 0836+710 | 71 04 22.42740 | * 70 53 42.17302 | 70 50 38.28797 | 0.10 |

EFFECT OF SOLAR CORONA

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) |
|---|---|
| 0836+710 | 53.9 |

# es074atr

## Monitoring of magnetic field and of outflows expantion in W75N-V

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Observing mode: Polarization observations of W75N(B) at 22 GHz (32 Mb/s); source = W75N(B)

Schedule for TORUN (Code Tr ) Page 2
Monitoring of the magnetic field and of the outflows expantion in W75N-V
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| Next scan frequencies: | | 22234.63 | 22234.63 | | | | | | | |
| Next BBC frequencies: | | 734.63 | 734.63 | | | | | | | |
| Next scan bandwidths: | | 4.00 | 4.00 | | | | | | | |
| 20 00 00 | J2202+4216 | 14 58 14 | 24.5 | 51.2 | -7.1 | | -39.3 | 0 | 0 | 20 00 00 |
| 20 10 00 | =BLLAC | 15 08 15 | 25.7 | 52.8 | -6.9 | | -40.3 | 600 | 2 | 20 00 01 |
| 20 11 15 | J2040+4527 | 15 09 31 | 38.5 | 62.7 | -5.5 | | -49.6 | 13 | 2 | 20 11 15 |
| 20 12 15 | =2039+452 | 15 10 31 | 38.6 | 62.8 | -5.5 | | -49.6 | 60 | 3 | 20 11 16 |
| 20 12 15 | W75N | 15 10 31 | 37.0 | 65.8 | -5.5 | | -48.2 | -21 | 3 | No stop |
| 20 13 15 | --- | 15 11 31 | 37.2 | 66.0 | -5.5 | | -48.3 | 39 | 3 | 20 12 16 |
| 20 13 15 | J2040+4527 | 15 11 31 | 38.7 | 63.0 | -5.5 | | -49.7 | -20 | 3 | No stop |
| 20 14 15 | =2039+452 | 15 12 31 | 38.9 | 63.1 | -5.5 | | -49.8 | 40 | 3 | 20 13 16 |
| 20 14 15 | W75N | 15 12 31 | 37.3 | 66.1 | -5.4 | | -48.3 | -21 | 3 | No stop |
| 20 15 15 | --- | 15 13 31 | 37.4 | 66.3 | -5.4 | | -48.4 | 39 | 3 | 20 14 16 |
| 20 15 15 | J2040+4527 | 15 13 31 | 39.0 | 63.2 | -5.5 | | -49.9 | -21 | 3 | No stop |
| 20 16 15 | =2039+452 | 15 14 31 | 39.1 | 63.4 | -5.4 | | -50.0 | 39 | 4 | 20 15 16 |
| 20 16 15 | W75N | 15 14 31 | 37.6 | 66.4 | -5.4 | | -48.5 | -21 | 4 | No stop |
| 20 17 15 | --- | 15 15 32 | 37.7 | 66.6 | -5.4 | | -48.6 | 39 | 4 | 20 16 16 |
| 20 17 15 | J2040+4527 | 15 15 32 | 39.3 | 63.5 | -5.4 | | -50.1 | -21 | 4 | No stop |
| 20 18 15 | =2039+452 | 15 16 32 | 39.4 | 63.7 | -5.4 | | -50.2 | 39 | 4 | 20 17 16 |
| 20 18 15 | W75N | 15 16 32 | 37.9 | 66.8 | -5.4 | | -48.6 | -21 | 4 | No stop |
| 20 19 15 | --- | 15 17 32 | 38.0 | 66.9 | -5.4 | | -48.7 | 39 | 4 | 20 18 16 |
| 20 19 15 | J2040+4527 | 15 17 32 | 39.5 | 63.8 | -5.4 | | -50.3 | -21 | 4 | No stop |
| 20 20 15 | =2039+452 | 15 18 32 | 39.7 | 64.0 | -5.4 | | -50.3 | 39 | 5 | 20 19 16 |

Schedule for TORUN (Code Tr ) Page 3

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 20 20 15 | W75N | 15 18 32 | 38.1 | 67.1 | -5.3 | | -48.8 | -21 | 5 | No stop |
| 20 21 15 | --- | 15 19 32 | 38.3 | 67.2 | -5.3 | | -48.9 | 39 | 5 | 20 20 16 |
| 20 21 55 | J2040+4527 | 15 20 12 | 39.9 | 64.2 | -5.4 | | -50.5 | 19 | 5 | 20 21 55 |
| 20 22 55 | =2039+452 | 15 21 12 | 40.0 | 64.4 | -5.3 | | -50.6 | 60 | 5 | 20 21 56 |
| 20 22 55 | W75N | 15 21 12 | 38.5 | 67.5 | -5.3 | | -49.0 | -21 | 5 | No stop |
| 20 23 55 | --- | 15 22 13 | 38.6 | 67.6 | -5.3 | | -49.1 | 39 | 5 | 20 22 56 |
| 20 23 55 | J2040+4527 | 15 22 13 | 40.2 | 64.5 | -5.3 | | -50.7 | -21 | 5 | No stop |
| 20 24 55 | =2039+452 | 15 23 13 | 40.3 | 64.7 | -5.3 | | -50.7 | 39 | 6 | 20 23 56 |
| 20 24 55 | W75N | 15 23 13 | 38.8 | 67.8 | -5.3 | | -49.1 | -21 | 6 | No stop |
| 20 25 55 | --- | 15 24 13 | 38.9 | 67.9 | -5.2 | | -49.2 | 39 | 6 | 20 24 56 |
| 20 25 55 | J2040+4527 | 15 24 13 | 40.4 | 64.8 | -5.3 | | -50.8 | -21 | 6 | No stop |
| 20 26 55 | =2039+452 | 15 25 13 | 40.6 | 64.9 | -5.3 | | -50.9 | 39 | 6 | 20 25 56 |
| 20 26 55 | W75N | 15 25 13 | 39.1 | 68.1 | -5.2 | | -49.3 | -21 | 6 | No stop |
| 20 27 55 | --- | 15 26 13 | 39.2 | 68.2 | -5.2 | | -49.3 | 39 | 6 | 20 26 56 |
| 20 27 55 | J2040+4527 | 15 26 13 | 40.7 | 65.1 | -5.3 | | -51.0 | -21 | 6 | No stop |
| 20 28 55 | =2039+452 | 15 27 13 | 40.9 | 65.2 | -5.2 | | -51.1 | 39 | 7 | 20 27 56 |
| 20 28 55 | W75N | 15 27 13 | 39.3 | 68.4 | -5.2 | | -49.4 | -21 | 7 | No stop |
| 20 29 55 | --- | 15 28 14 | 39.5 | 68.6 | -5.2 | | -49.5 | 39 | 7 | 20 28 56 |
| 20 29 55 | J2040+4527 | 15 28 14 | 41.0 | 65.4 | -5.2 | | -51.2 | -21 | 7 | No stop |
| 20 30 55 | =2039+452 | 15 29 14 | 41.1 | 65.5 | -5.2 | | -51.2 | 39 | 7 | 20 29 56 |
| 20 30 55 | W75N | 15 29 14 | 39.6 | 68.7 | -5.2 | | -49.6 | -21 | 7 | No stop |
| 20 31 55 | --- | 15 30 14 | 39.8 | 68.9 | -5.1 | | -49.6 | 39 | 7 | 20 30 56 |
| 20 32 35 | J2040+4527 | 15 30 54 | 41.4 | 65.8 | -5.2 | | -51.4 | 19 | 7 | 20 32 35 |
| 20 33 35 | =2039+452 | 15 31 54 | 41.5 | 65.9 | -5.2 | | -51.5 | 60 | 7 | 20 32 36 |
| 20 33 35 | W75N | 15 31 54 | 40.0 | 69.1 | -5.1 | | -49.7 | -21 | 7 | No stop |
| 20 34 35 | --- | 15 32 54 | 40.1 | 69.3 | -5.1 | | -49.8 | 39 | 8 | 20 33 36 |
| 20 34 35 | J2040+4527 | 15 32 54 | 41.6 | 66.1 | -5.1 | | -51.5 | -21 | 8 | No stop |
| 20 35 35 | =2039+452 | 15 33 55 | 41.8 | 66.2 | -5.1 | | -51.6 | 39 | 8 | 20 34 36 |
| 20 35 35 | W75N | 15 33 55 | 40.3 | 69.4 | -5.1 | | -49.9 | -21 | 8 | No stop |
| 20 36 35 | --- | 15 34 55 | 40.4 | 69.6 | -5.1 | | -50.0 | 39 | 8 | 20 35 36 |
| 20 36 35 | J2040+4527 | 15 34 55 | 41.9 | 66.4 | -5.1 | | -51.7 | -21 | 8 | No stop |
| 20 37 35 | =2039+452 | 15 35 55 | 42.0 | 66.5 | -5.1 | | -51.8 | 39 | 8 | 20 36 36 |

Schedule for TORUN (Code Tr ) Page 4

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Stop LST | Start EL | Stop EL | Start AZ | Stop AZ | Start HA | Stop HA | UP | ParA | Early / Dwell | Disk GBytes | TPStart / SYNC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | | | | | |
| 20 37 35 | W75N | 15 35 55 | | 40.6 | | 69.8 | | -5.1 | | | -50.0 | -21 | 8 | No stop |
| 20 38 35 | --- | 15 36 55 | | 40.7 | | 69.9 | | -5.0 | | | -50.1 | 39 | 9 | 20 37 36 |
| 20 38 35 | J2040+4527 | 15 36 55 | | 42.2 | | 66.6 | | -5.1 | | | -51.9 | -21 | 9 | No stop |
| 20 39 35 | =2039+452 | 15 37 55 | | 42.3 | | 66.8 | | -5.1 | | | -52.0 | 39 | 9 | 20 38 36 |
| 20 39 35 | W75N | 15 37 55 | | 40.8 | | 70.1 | | -5.0 | | | -50.2 | -21 | 9 | No stop |
| 20 40 35 | --- | 15 38 55 | | 41.0 | | 70.2 | | -5.0 | | | -50.2 | 39 | 9 | 20 39 36 |
| 20 40 35 | J2040+4527 | 15 38 55 | | 42.5 | | 66.9 | | -5.0 | | | -52.0 | -21 | 9 | No stop |
| 20 41 35 | =2039+452 | 15 39 56 | | 42.6 | | 67.1 | | -5.0 | | | -52.1 | 39 | 9 | 20 40 36 |
| 20 41 35 | W75N | 15 39 56 | | 41.1 | | 70.4 | | -5.0 | | | -50.3 | -21 | 9 | No stop |
| 20 42 35 | --- | 15 40 56 | | 41.3 | | 70.5 | | -5.0 | | | -50.4 | 39 | 10 | 20 41 36 |
| 20 43 15 | J2040+4527 | 15 41 36 | | 42.8 | | 67.3 | | -5.0 | | | -52.2 | 19 | 10 | 20 43 15 |
| 20 44 15 | =2039+452 | 15 42 36 | | 43.0 | | 67.5 | | -5.0 | | | -52.3 | 60 | 10 | 20 43 16 |
| 20 44 15 | W75N | 15 42 36 | | 41.5 | | 70.8 | | -4.9 | | | -50.5 | -21 | 10 | No stop |
| 20 45 15 | --- | 15 43 36 | | 41.6 | | 70.9 | | -4.9 | | | -50.5 | 39 | 10 | 20 44 16 |
| 20 45 15 | J2040+4527 | 15 43 36 | | 43.1 | | 67.6 | | -5.0 | | | -52.4 | -21 | 10 | No stop |
| 20 46 15 | =2039+452 | 15 44 36 | | 43.2 | | 67.8 | | -4.9 | | | -52.5 | 39 | 10 | 20 45 16 |
| 20 46 15 | W75N | 15 44 36 | | 41.8 | | 71.1 | | -4.9 | | | -50.6 | -21 | 10 | No stop |
| 20 47 15 | --- | 15 45 36 | | 41.9 | | 71.3 | | -4.9 | | | -50.7 | 39 | 11 | 20 46 16 |
| 20 47 15 | J2040+4527 | 15 45 36 | | 43.4 | | 67.9 | | -4.9 | | | -52.6 | -21 | 11 | No stop |
| 20 48 15 | =2039+452 | 15 46 37 | | 43.5 | | 68.1 | | -4.9 | | | -52.6 | 39 | 11 | 20 47 16 |
| 20 48 15 | W75N | 15 46 37 | | 42.1 | | 71.4 | | -4.9 | | | -50.7 | -21 | 11 | No stop |
| 20 49 15 | --- | 15 47 37 | | 42.2 | | 71.6 | | -4.9 | | | -50.8 | 39 | 11 | 20 48 16 |
| 20 49 15 | J2040+4527 | 15 47 37 | | 43.7 | | 68.2 | | -4.9 | | | -52.7 | -21 | 11 | No stop |
| 20 50 15 | =2039+452 | 15 48 37 | | 43.8 | | 68.4 | | -4.9 | | | -52.8 | 39 | 11 | 20 49 16 |
| 20 50 15 | W75N | 15 48 37 | | 42.4 | | 71.7 | | -4.8 | | | -50.9 | -22 | 11 | No stop |
| 20 51 15 | --- | 15 49 37 | | 42.5 | | 71.9 | | -4.8 | | | -50.9 | 38 | 12 | 20 50 16 |
| 20 51 15 | J2040+4527 | 15 49 37 | | 43.9 | | 68.5 | | -4.9 | | | -52.9 | -21 | 12 | No stop |
| 20 52 15 | =2039+452 | 15 50 37 | | 44.1 | | 68.7 | | -4.8 | | | -52.9 | 39 | 12 | 20 51 16 |
| 20 52 15 | W75N | 15 50 37 | | 42.6 | | 72.0 | | -4.8 | | | -51.0 | -22 | 12 | No stop |
| 20 53 15 | --- | 15 51 37 | | 42.8 | | 72.2 | | -4.8 | | | -51.1 | 38 | 12 | 20 52 16 |
| 20 54 25 | J2202+4216 | 15 52 48 | | 31.2 | | 59.7 | | -6.2 | | | -44.5 | 13 | 12 | 20 54 25 |
| 21 04 25 | =BLLAC | 16 02 49 | | 32.5 | | 61.2 | | -6.0 | | | -45.4 | 600 | 15 | 20 54 26 |

Schedule for TORUN (Code Tr ) Page 5

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 21 05 40 | J2040+4527 | 16 04 04 | 46.0 | 70.6 | -4.6 | | -53.9 | 11 | 15 | 21 05 40 |
| 21 06 40 | =2039+452 | 16 05 05 | 46.1 | 70.8 | -4.6 | | -54.0 | 60 | 15 | 21 05 41 |
| 21 06 40 | W75N | 16 05 05 | 44.7 | 74.3 | -4.6 | | -51.9 | -22 | 15 | No stop |
| 21 07 40 | --- | 16 06 05 | 44.9 | 74.5 | -4.6 | | -51.9 | 38 | 15 | 21 06 41 |
| 21 07 40 | J2040+4527 | 16 06 05 | 46.3 | 70.9 | -4.6 | | -54.1 | -22 | 15 | No stop |
| 21 08 40 | =2039+452 | 16 07 05 | 46.4 | 71.1 | -4.6 | | -54.2 | 38 | 15 | 21 07 41 |
| 21 08 40 | W75N | 16 07 05 | 45.0 | 74.7 | -4.5 | | -52.0 | -22 | 15 | No stop |
| 21 09 40 | --- | 16 08 05 | 45.2 | 74.8 | -4.5 | | -52.0 | 38 | 15 | 21 08 41 |
| 21 09 40 | J2040+4527 | 16 08 05 | 46.5 | 71.2 | -4.6 | | -54.2 | -22 | 15 | No stop |
| 21 10 40 | =2039+452 | 16 09 05 | 46.7 | 71.4 | -4.5 | | -54.3 | 38 | 16 | 21 09 41 |
| 21 10 40 | W75N | 16 09 05 | 45.3 | 75.0 | -4.5 | | -52.1 | -22 | 16 | No stop |
| 21 11 40 | --- | 16 10 05 | 45.5 | 75.1 | -4.5 | | -52.1 | 38 | 16 | 21 10 41 |
| 21 11 40 | J2040+4527 | 16 10 05 | 46.8 | 71.5 | -4.5 | | -54.4 | -22 | 16 | No stop |
| 21 12 40 | =2039+452 | 16 11 06 | 47.0 | 71.7 | -4.5 | | -54.4 | 38 | 16 | 21 11 41 |
| 21 12 40 | W75N | 16 11 06 | 45.6 | 75.3 | -4.5 | | -52.2 | -22 | 16 | No stop |
| 21 13 40 | --- | 16 12 06 | 45.7 | 75.5 | -4.5 | | -52.2 | 38 | 16 | 21 12 41 |
| 21 13 40 | J2040+4527 | 16 12 06 | 47.1 | 71.8 | -4.5 | | -54.5 | -22 | 16 | No stop |
| 21 14 40 | =2039+452 | 16 13 06 | 47.3 | 72.0 | -4.5 | | -54.6 | 38 | 17 | 21 13 41 |
| 21 14 40 | W75N | 16 13 06 | 45.9 | 75.6 | -4.4 | | -52.3 | -22 | 17 | No stop |
| 21 15 40 | --- | 16 14 06 | 46.0 | 75.8 | -4.4 | | -52.4 | 38 | 17 | 21 14 41 |
| 21 16 20 | J2040+4527 | 16 14 46 | 47.5 | 72.2 | -4.4 | | -54.7 | 18 | 17 | 21 16 20 |
| 21 17 20 | =2039+452 | 16 15 46 | 47.6 | 72.4 | -4.4 | | -54.8 | 60 | 17 | 21 16 21 |
| 21 17 20 | W75N | 16 15 46 | 46.3 | 76.1 | -4.4 | | -52.4 | -22 | 17 | No stop |
| 21 18 20 | --- | 16 16 47 | 46.4 | 76.2 | -4.4 | | -52.5 | 38 | 17 | 21 17 21 |
| 21 18 20 | J2040+4527 | 16 16 47 | 47.8 | 72.5 | -4.4 | | -54.8 | -22 | 17 | No stop |
| 21 19 20 | =2039+452 | 16 17 47 | 47.9 | 72.7 | -4.4 | | -54.9 | 38 | 18 | 21 18 21 |
| 21 19 20 | W75N | 16 17 47 | 46.6 | 76.4 | -4.4 | | -52.5 | -22 | 18 | No stop |
| 21 20 20 | --- | 16 18 47 | 46.7 | 76.6 | -4.3 | | -52.6 | 38 | 18 | 21 19 21 |
| 21 20 20 | J2040+4527 | 16 18 47 | 48.1 | 72.8 | -4.4 | | -55.0 | -22 | 18 | No stop |
| 21 21 20 | =2039+452 | 16 19 47 | 48.2 | 73.0 | -4.4 | | -55.0 | 38 | 18 | 21 20 21 |
| 21 21 20 | W75N | 16 19 47 | 46.9 | 76.7 | -4.3 | | -52.6 | -22 | 18 | No stop |
| 21 22 20 | --- | 16 20 47 | 47.0 | 76.9 | -4.3 | | -52.7 | 38 | 18 | 21 21 21 |

Schedule for TORUN (Code Tr ) Page 6

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 21 22 20 | J2040+4527 | 16 20 47 | 48.4 | 73.1 | -4.3 | | -55.1 | -22 | 18 | No stop |
| 21 23 20 | =2039+452 | 16 21 47 | 48.5 | 73.3 | -4.3 | | -55.1 | 38 | 19 | 21 22 21 |
| 21 23 20 | W75N | 16 21 47 | 47.2 | 77.0 | -4.3 | | -52.7 | -22 | 19 | No stop |
| 21 24 20 | --- | 16 22 48 | 47.3 | 77.2 | -4.3 | | -52.8 | 38 | 19 | 21 23 21 |
| 21 24 20 | J2040+4527 | 16 22 48 | 48.6 | 73.4 | -4.3 | | -55.2 | -22 | 19 | No stop |
| 21 25 20 | =2039+452 | 16 23 48 | 48.8 | 73.6 | -4.3 | | -55.3 | 38 | 19 | 21 24 21 |
| 21 25 20 | W75N | 16 23 48 | 47.4 | 77.4 | -4.3 | | -52.8 | -22 | 19 | No stop |
| 21 26 20 | --- | 16 24 48 | 47.6 | 77.5 | -4.2 | | -52.9 | 38 | 19 | 21 25 21 |
| 21 27 00 | J2040+4527 | 16 25 28 | 49.0 | 73.8 | -4.3 | | -55.4 | 18 | 19 | 21 27 00 |
| 21 28 00 | =2039+452 | 16 26 28 | 49.2 | 74.0 | -4.2 | | -55.4 | 60 | 20 | 21 27 01 |
| 21 28 00 | W75N | 16 26 28 | 47.8 | 77.8 | -4.2 | | -53.0 | -23 | 20 | No stop |
| 21 29 00 | --- | 16 27 28 | 48.0 | 78.0 | -4.2 | | -53.0 | 37 | 20 | 21 28 01 |
| 21 29 00 | J2040+4527 | 16 27 28 | 49.3 | 74.2 | -4.2 | | -55.5 | -22 | 20 | No stop |
| 21 30 00 | =2039+452 | 16 28 28 | 49.5 | 74.3 | -4.2 | | -55.6 | 38 | 20 | 21 29 01 |
| 21 30 00 | W75N | 16 28 28 | 48.1 | 78.1 | -4.2 | | -53.1 | -23 | 20 | No stop |
| 21 31 00 | --- | 16 29 29 | 48.3 | 78.3 | -4.2 | | -53.1 | 37 | 20 | 21 30 01 |
| 21 31 00 | J2040+4527 | 16 29 29 | 49.6 | 74.5 | -4.2 | | -55.6 | -22 | 20 | No stop |
| 21 32 00 | =2039+452 | 16 30 29 | 49.8 | 74.6 | -4.2 | | -55.7 | 38 | 21 | 21 31 01 |
| 21 32 00 | W75N | 16 30 29 | 48.4 | 78.5 | -4.1 | | -53.2 | -23 | 21 | No stop |
| 21 33 00 | --- | 16 31 29 | 48.6 | 78.6 | -4.1 | | -53.2 | 37 | 21 | 21 32 01 |
| 21 33 00 | J2040+4527 | 16 31 29 | 49.9 | 74.8 | -4.2 | | -55.8 | -23 | 21 | No stop |
| 21 34 00 | =2039+452 | 16 32 29 | 50.0 | 74.9 | -4.1 | | -55.8 | 37 | 21 | 21 33 01 |
| 21 34 00 | W75N | 16 32 29 | 48.7 | 78.8 | -4.1 | | -53.2 | -23 | 21 | No stop |
| 21 35 00 | --- | 16 33 29 | 48.9 | 79.0 | -4.1 | | -53.3 | 37 | 21 | 21 34 01 |
| 21 35 00 | J2040+4527 | 16 33 29 | 50.2 | 75.1 | -4.1 | | -55.9 | -23 | 21 | No stop |
| 21 36 00 | =2039+452 | 16 34 29 | 50.3 | 75.2 | -4.1 | | -55.9 | 37 | 22 | 21 35 01 |
| 21 36 00 | W75N | 16 34 29 | 49.0 | 79.1 | -4.1 | | -53.3 | -23 | 22 | No stop |
| 21 37 00 | --- | 16 35 30 | 49.2 | 79.3 | -4.1 | | -53.4 | 37 | 22 | 21 36 01 |
| 21 37 40 | J2040+4527 | 16 36 10 | 50.6 | 75.5 | -4.1 | | -56.0 | 17 | 22 | 21 37 40 |
| 21 38 40 | =2039+452 | 16 37 10 | 50.7 | 75.6 | -4.1 | | -56.1 | 60 | 22 | 21 37 41 |
| 21 38 40 | W75N | 16 37 10 | 49.4 | 79.6 | -4.0 | | -53.5 | -23 | 22 | No stop |
| 21 39 40 | --- | 16 38 10 | 49.6 | 79.8 | -4.0 | | -53.5 | 37 | 22 | 21 38 41 |

Schedule for TORUN (Code Tr ) Page 7

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | Start LST | Start EL | Start AZ | Start HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 21 39 40 | J2040+4527 | 16 38 10 | 50.9 | 75.8 | -4.1 | | -56.2 | -23 | 22 | No stop |
| 21 40 40 | =2039+452 | 16 39 10 | 51.0 | 75.9 | -4.0 | | -56.2 | 37 | 22 | 21 39 41 |
| 21 40 40 | W75N | 16 39 10 | 49.7 | 79.9 | -4.0 | | -53.5 | -23 | 22 | No stop |
| 21 41 40 | --- | 16 40 10 | 49.9 | 80.1 | -4.0 | | -53.6 | 37 | 23 | 21 40 41 |
| 21 41 40 | J2040+4527 | 16 40 10 | 51.2 | 76.1 | -4.0 | | -56.3 | -23 | 23 | No stop |
| 21 42 40 | =2039+452 | 16 41 11 | 51.3 | 76.3 | -4.0 | | -56.3 | 37 | 23 | 21 41 41 |
| 21 42 40 | W75N | 16 41 11 | 50.0 | 80.3 | -4.0 | | -53.6 | -23 | 23 | No stop |
| 21 43 40 | --- | 16 42 11 | 50.2 | 80.4 | -3.9 | | -53.7 | 37 | 23 | 21 42 41 |
| 21 43 40 | J2040+4527 | 16 42 11 | 51.5 | 76.4 | -4.0 | | -56.4 | -23 | 23 | No stop |
| 21 44 40 | =2039+452 | 16 43 11 | 51.6 | 76.6 | -4.0 | | -56.4 | 37 | 23 | 21 43 41 |
| 21 44 40 | W75N | 16 43 11 | 50.3 | 80.6 | -3.9 | | -53.7 | -23 | 23 | No stop |
| 21 45 40 | --- | 16 44 11 | 50.5 | 80.8 | -3.9 | | -53.7 | 37 | 24 | 21 44 41 |
| 21 45 40 | J2040+4527 | 16 44 11 | 51.8 | 76.7 | -4.0 | | -56.5 | -23 | 24 | No stop |
| 21 46 40 | =2039+452 | 16 45 11 | 51.9 | 76.9 | -3.9 | | -56.6 | 37 | 24 | 21 45 41 |
| 21 46 40 | W75N | 16 45 11 | 50.6 | 81.0 | -3.9 | | -53.8 | -23 | 24 | No stop |
| 21 47 40 | --- | 16 46 11 | 50.8 | 81.1 | -3.9 | | -53.8 | 37 | 24 | 21 46 41 |
| 21 48 20 | J2040+4527 | 16 46 51 | 52.1 | 77.1 | -3.9 | | -56.7 | 17 | 24 | 21 48 20 |
| 21 49 20 | =2039+452 | 16 47 52 | 52.3 | 77.3 | -3.9 | | -56.7 | 60 | 24 | 21 48 21 |
| 21 49 20 | W75N | 16 47 52 | 51.0 | 81.4 | -3.9 | | -53.9 | -23 | 24 | No stop |
| 21 50 20 | --- | 16 48 52 | 51.1 | 81.6 | -3.8 | | -53.9 | 37 | 25 | 21 49 21 |
| 21 50 20 | J2040+4527 | 16 48 52 | 52.4 | 77.5 | -3.9 | | -56.8 | -23 | 25 | No stop |
| 21 51 20 | =2039+452 | 16 49 52 | 52.6 | 77.6 | -3.9 | | -56.8 | 37 | 25 | 21 50 21 |
| 21 51 20 | W75N | 16 49 52 | 51.3 | 81.8 | -3.8 | | -53.9 | -23 | 25 | No stop |
| 21 52 20 | --- | 16 50 52 | 51.4 | 81.9 | -3.8 | | -54.0 | 37 | 25 | 21 51 21 |
| 21 52 20 | J2040+4527 | 16 50 52 | 52.7 | 77.8 | -3.8 | | -56.9 | -23 | 25 | No stop |
| 21 53 20 | =2039+452 | 16 51 52 | 52.9 | 77.9 | -3.8 | | -56.9 | 37 | 25 | 21 52 21 |
| 21 53 20 | W75N | 16 51 52 | 51.6 | 82.1 | -3.8 | | -54.0 | -23 | 25 | No stop |
| 21 54 20 | --- | 16 52 52 | 51.7 | 82.3 | -3.8 | | -54.0 | 37 | 26 | 21 53 21 |
| 21 54 20 | J2040+4527 | 16 52 52 | 53.0 | 78.1 | -3.8 | | -57.0 | -23 | 26 | No stop |
| 21 55 20 | =2039+452 | 16 53 53 | 53.2 | 78.3 | -3.8 | | -57.0 | 37 | 26 | 21 54 21 |

Schedule for TORUN (Code Tr ) Page 8

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 21 55 20 | W75N | 16 53 53 | 51.9 | 82.5 | -3.8 | | -54.1 | -23 | 26 | No stop |
| 21 56 20 | --- | 16 54 53 | 52.0 | 82.6 | -3.7 | | -54.1 | 37 | 26 | 21 55 21 |
| 21 56 20 | J2040+4527 | 16 54 53 | 53.3 | 78.4 | -3.8 | | -57.1 | -23 | 26 | No stop |
| 21 57 20 | =2039+452 | 16 55 53 | 53.5 | 78.6 | -3.8 | | -57.1 | 37 | 26 | 21 56 21 |
| 21 57 20 | W75N | 16 55 53 | 52.2 | 82.8 | -3.7 | | -54.1 | -24 | 26 | No stop |
| 21 58 20 | --- | 16 56 53 | 52.3 | 83.0 | -3.7 | | -54.2 | 36 | 27 | 21 57 21 |
| 21 59 40 | J2202+4216 | 16 58 13 | 40.1 | 69.8 | -5.1 | | -49.7 | 20 | 27 | 21 59 40 |
| 22 09 40 | =BLLAC | 17 08 15 | 41.5 | 71.4 | -4.9 | | -50.3 | 600 | 29 | 21 59 41 |
| 22 10 55 | J2040+4527 | 17 09 30 | 55.5 | 80.8 | -3.5 | | -57.8 | 9 | 29 | 22 10 55 |
| 22 12 05 | =2039+452 | 17 10 40 | 55.7 | 81.0 | -3.5 | | -57.8 | 70 | 29 | 22 10 56 |
| 22 12 05 | W75N | 17 10 40 | 54.4 | 85.5 | -3.5 | | -54.5 | -24 | 29 | No stop |
| 22 13 15 | --- | 17 11 51 | 54.6 | 85.7 | -3.5 | | -54.5 | 46 | 30 | 22 12 06 |
| 22 13 15 | J2040+4527 | 17 11 51 | 55.8 | 81.2 | -3.5 | | -57.9 | -24 | 30 | No stop |
| 22 14 25 | =2039+452 | 17 13 01 | 56.0 | 81.4 | -3.5 | | -57.9 | 46 | 30 | 22 13 16 |
| 22 14 25 | W75N | 17 13 01 | 54.8 | 85.9 | -3.4 | | -54.6 | -24 | 30 | No stop |
| 22 15 35 | --- | 17 14 11 | 54.9 | 86.1 | -3.4 | | -54.6 | 46 | 30 | 22 14 26 |
| 22 15 35 | J2040+4527 | 17 14 11 | 56.2 | 81.6 | -3.5 | | -57.9 | -24 | 30 | No stop |
| 22 16 45 | =2039+452 | 17 15 21 | 56.3 | 81.8 | -3.4 | | -58.0 | 46 | 30 | 22 15 36 |
| 22 16 45 | W75N | 17 15 21 | 55.1 | 86.3 | -3.4 | | -54.6 | -24 | 30 | No stop |
| 22 17 55 | --- | 17 16 31 | 55.3 | 86.5 | -3.4 | | -54.6 | 46 | 31 | 22 16 46 |
| 22 17 55 | J2040+4527 | 17 16 31 | 56.5 | 82.0 | -3.4 | | -58.0 | -24 | 31 | No stop |
| 22 19 05 | =2039+452 | 17 17 42 | 56.7 | 82.2 | -3.4 | | -58.1 | 46 | 31 | 22 17 56 |
| 22 19 05 | W75N | 17 17 42 | 55.5 | 86.8 | -3.4 | | -54.6 | -24 | 31 | No stop |
| 22 20 15 | --- | 17 18 52 | 55.6 | 87.0 | -3.3 | | -54.7 | 46 | 31 | 22 19 06 |
| 22 20 15 | J2040+4527 | 17 18 52 | 56.9 | 82.3 | -3.4 | | -58.1 | -24 | 31 | No stop |
| 22 21 25 | =2039+452 | 17 20 02 | 57.0 | 82.5 | -3.4 | | -58.2 | 46 | 32 | 22 20 16 |
| 22 21 25 | W75N | 17 20 02 | 55.8 | 87.2 | -3.3 | | -54.7 | -24 | 32 | No stop |
| 22 22 35 | --- | 17 21 12 | 56.0 | 87.4 | -3.3 | | -54.7 | 46 | 32 | 22 21 26 |
| 22 23 15 | J2040+4527 | 17 21 52 | 57.3 | 82.9 | -3.3 | | -58.2 | 16 | 32 | 22 23 15 |
| 22 24 25 | =2039+452 | 17 23 02 | 57.5 | 83.1 | -3.3 | | -58.3 | 70 | 32 | 22 23 16 |

Schedule for TORUN (Code Tr ) Page 9

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 22 24 25 | W75N | 17 23 02 | 56.3 | 87.8 | -3.3 | | -54.7 | -25 | 32 | No stop |
| 22 25 35 | --- | 17 24 13 | 56.4 | 88.0 | -3.2 | | -54.7 | 45 | 32 | 22 24 26 |
| 22 25 35 | J2040+4527 | 17 24 13 | 57.7 | 83.3 | -3.3 | | -58.3 | -24 | 32 | No stop |
| 22 26 45 | =2039+452 | 17 25 23 | 57.8 | 83.5 | -3.3 | | -58.3 | 46 | 33 | 22 25 36 |
| 22 26 45 | W75N | 17 25 23 | 56.6 | 88.2 | -3.2 | | -54.7 | -25 | 33 | No stop |
| 22 27 55 | --- | 17 26 33 | 56.8 | 88.4 | -3.2 | | -54.7 | 45 | 33 | 22 26 46 |
| 22 27 55 | J2040+4527 | 17 26 33 | 58.0 | 83.7 | -3.2 | | -58.4 | -24 | 33 | No stop |
| 22 29 05 | =2039+452 | 17 27 43 | 58.2 | 83.9 | -3.2 | | -58.4 | 46 | 33 | 22 27 56 |
| 22 29 05 | W75N | 17 27 43 | 57.0 | 88.7 | -3.2 | | -54.7 | -25 | 33 | No stop |
| 22 30 15 | --- | 17 28 53 | 57.1 | 88.9 | -3.2 | | -54.7 | 45 | 34 | 22 29 06 |
| 22 30 15 | J2040+4527 | 17 28 53 | 58.4 | 84.1 | -3.2 | | -58.5 | -25 | 34 | No stop |
| 22 31 25 | =2039+452 | 17 30 04 | 58.5 | 84.3 | -3.2 | | -58.5 | 45 | 34 | 22 30 16 |
| 22 31 25 | W75N | 17 30 04 | 57.3 | 89.1 | -3.2 | | -54.8 | -25 | 34 | No stop |
| 22 32 35 | --- | 17 31 14 | 57.5 | 89.4 | -3.1 | | -54.8 | 45 | 34 | 22 31 26 |
| 22 32 35 | J2040+4527 | 17 31 14 | 58.7 | 84.5 | -3.2 | | -58.5 | -25 | 34 | No stop |
| 22 33 45 | =2039+452 | 17 32 24 | 58.9 | 84.7 | -3.1 | | -58.6 | 45 | 34 | 22 32 36 |
| 22 33 45 | W75N | 17 32 24 | 57.7 | 89.6 | -3.1 | | -54.8 | -25 | 34 | No stop |
| 22 34 55 | --- | 17 33 34 | 57.8 | 89.8 | -3.1 | | -54.8 | 45 | 35 | 22 33 46 |
| 22 35 35 | J2040+4527 | 17 34 14 | 59.2 | 85.0 | -3.1 | | -58.6 | 15 | 35 | 22 35 35 |
| 22 36 45 | =2039+452 | 17 35 24 | 59.3 | 85.2 | -3.1 | | -58.6 | 70 | 35 | 22 35 36 |
| 22 36 45 | W75N | 17 35 24 | 58.1 | 90.2 | -3.1 | | -54.8 | -25 | 35 | No stop |
| 22 37 55 | --- | 17 36 35 | 58.3 | 90.4 | -3.0 | | -54.8 | 45 | 35 | 22 36 46 |
| 22 37 55 | J2040+4527 | 17 36 35 | 59.5 | 85.4 | -3.1 | | -58.7 | -25 | 35 | No stop |
| 22 39 05 | =2039+452 | 17 37 45 | 59.7 | 85.6 | -3.1 | | -58.7 | 45 | 36 | 22 37 56 |
| 22 39 05 | W75N | 17 37 45 | 58.5 | 90.7 | -3.0 | | -54.8 | -25 | 36 | No stop |
| 22 40 15 | --- | 17 38 55 | 58.6 | 90.9 | -3.0 | | -54.8 | 45 | 36 | 22 39 06 |
| 22 40 15 | J2040+4527 | 17 38 55 | 59.9 | 85.9 | -3.0 | | -58.7 | -25 | 36 | No stop |
| 22 41 25 | =2039+452 | 17 40 05 | 60.0 | 86.1 | -3.0 | | -58.7 | 45 | 36 | 22 40 16 |
| 22 41 25 | W75N | 17 40 05 | 58.8 | 91.1 | -3.0 | | -54.7 | -25 | 36 | No stop |
| 22 42 35 | --- | 17 41 15 | 59.0 | 91.4 | -3.0 | | -54.7 | 45 | 36 | 22 41 26 |

Schedule for TORUN (Code Tr ) Page 10

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 22 42 35 | J2040+4527 | 17 41 15 | 60.2 | 86.3 | -3.0 | | -58.8 | -25 | 36 | No stop |
| 22 43 45 | =2039+452 | 17 42 26 | 60.4 | 86.5 | -3.0 | | -58.8 | 45 | 37 | 22 42 36 |
| 22 43 45 | W75N | 17 42 26 | 59.2 | 91.6 | -2.9 | | -54.7 | -25 | 37 | No stop |
| 22 44 55 | --- | 17 43 36 | 59.3 | 91.9 | -2.9 | | -54.7 | 45 | 37 | 22 43 46 |
| 22 44 55 | J2040+4527 | 17 43 36 | 60.6 | 86.7 | -3.0 | | -58.8 | -25 | 37 | No stop |
| 22 46 05 | =2039+452 | 17 44 46 | 60.7 | 86.9 | -2.9 | | -58.8 | 45 | 37 | 22 44 56 |
| 22 46 05 | W75N | 17 44 46 | 59.5 | 92.1 | -2.9 | | -54.7 | -26 | 37 | No stop |
| 22 47 15 | --- | 17 45 56 | 59.7 | 92.4 | -2.9 | | -54.7 | 44 | 37 | 22 46 06 |
| 22 47 55 | J2040+4527 | 17 46 36 | 61.0 | 87.3 | -2.9 | | -58.9 | 15 | 37 | 22 47 55 |
| 22 49 05 | =2039+452 | 17 47 46 | 61.2 | 87.5 | -2.9 | | -58.9 | 70 | 38 | 22 47 56 |
| 22 49 05 | W75N | 17 47 46 | 60.0 | 92.7 | -2.9 | | -54.7 | -26 | 38 | No stop |
| 22 50 15 | --- | 17 48 57 | 60.1 | 93.0 | -2.8 | | -54.7 | 44 | 38 | 22 49 06 |
| 22 50 15 | J2040+4527 | 17 48 57 | 61.4 | 87.7 | -2.9 | | -58.9 | -25 | 38 | No stop |
| 22 51 25 | =2039+452 | 17 50 07 | 61.5 | 87.9 | -2.9 | | -58.9 | 45 | 38 | 22 50 16 |
| 22 51 25 | W75N | 17 50 07 | 60.3 | 93.2 | -2.8 | | -54.6 | -26 | 38 | No stop |
| 22 52 35 | --- | 17 51 17 | 60.5 | 93.5 | -2.8 | | -54.6 | 44 | 39 | 22 51 26 |
| 22 52 35 | J2040+4527 | 17 51 17 | 61.7 | 88.2 | -2.8 | | -58.9 | -26 | 39 | No stop |
| 22 53 45 | =2039+452 | 17 52 27 | 61.9 | 88.4 | -2.8 | | -58.9 | 44 | 39 | 22 52 36 |
| 22 53 45 | W75N | 17 52 27 | 60.7 | 93.8 | -2.8 | | -54.6 | -26 | 39 | No stop |
| 22 54 55 | --- | 17 53 37 | 60.8 | 94.0 | -2.8 | | -54.6 | 44 | 39 | 22 53 46 |
| 22 54 55 | J2040+4527 | 17 53 37 | 62.1 | 88.6 | -2.8 | | -58.9 | -26 | 39 | No stop |
| 22 56 05 | =2039+452 | 17 54 48 | 62.2 | 88.8 | -2.8 | | -58.9 | 44 | 39 | 22 54 56 |
| 22 56 05 | W75N | 17 54 48 | 61.0 | 94.3 | -2.7 | | -54.5 | -26 | 39 | No stop |
| 22 57 15 | --- | 17 55 58 | 61.2 | 94.5 | -2.7 | | -54.5 | 44 | 40 | 22 56 06 |
| 22 57 15 | J2040+4527 | 17 55 58 | 62.4 | 89.1 | -2.8 | | -58.9 | -26 | 40 | No stop |
| 22 58 25 | =2039+452 | 17 57 08 | 62.6 | 89.3 | -2.7 | | -59.0 | 44 | 40 | 22 57 16 |
| 22 58 25 | W75N | 17 57 08 | 61.4 | 94.8 | -2.7 | | -54.5 | -26 | 40 | No stop |
| 22 59 35 | --- | 17 58 18 | 61.5 | 95.0 | -2.7 | | -54.5 | 44 | 40 | 22 58 26 |
| 23 00 15 | J2040+4527 | 17 58 58 | 62.9 | 89.7 | -2.7 | | -59.0 | 14 | 40 | 23 00 15 |
| 23 01 25 | =2039+452 | 18 00 08 | 63.0 | 89.9 | -2.7 | | -59.0 | 70 | 41 | 23 00 16 |

Schedule for TORUN (Code Tr ) Page 11

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 23 01 25 | W75N | 18 00 08 | 61.8 | 95.5 | -2.7 | | -54.4 | -26 | 41 | No stop |
| 23 02 35 | --- | 18 01 19 | 62.0 | 95.7 | -2.6 | | -54.4 | 44 | 41 | 23 01 26 |
| 23 02 35 | J2040+4527 | 18 01 19 | 63.2 | 90.1 | -2.7 | | -59.0 | -26 | 41 | No stop |
| 23 03 35 | =2039+452 | 18 02 19 | 63.4 | 90.3 | -2.7 | | -59.0 | 34 | 41 | 23 02 36 |
| 23 03 35 | W75N | 18 02 19 | 62.1 | 96.0 | -2.6 | | -54.3 | -26 | 41 | No stop |
| 23 04 45 | --- | 18 03 29 | 62.3 | 96.2 | -2.6 | | -54.3 | 44 | 41 | 23 03 36 |
| 23 04 45 | J2040+4527 | 18 03 29 | 63.5 | 90.6 | -2.6 | | -59.0 | -26 | 41 | No stop |
| 23 05 45 | =2039+452 | 18 04 29 | 63.7 | 90.8 | -2.6 | | -59.0 | 34 | 42 | 23 04 46 |
| 23 05 45 | W75N | 18 04 29 | 62.5 | 96.5 | -2.6 | | -54.3 | -27 | 42 | No stop |
| 23 06 55 | --- | 18 05 39 | 62.6 | 96.7 | -2.6 | | -54.2 | 43 | 42 | 23 05 46 |
| 23 06 55 | J2040+4527 | 18 05 39 | 63.9 | 91.0 | -2.6 | | -58.9 | -26 | 42 | No stop |
| 23 07 55 | =2039+452 | 18 06 40 | 64.0 | 91.2 | -2.6 | | -58.9 | 34 | 42 | 23 06 56 |
| 23 07 55 | W75N | 18 06 40 | 62.8 | 97.0 | -2.5 | | -54.2 | -27 | 42 | No stop |
| 23 09 05 | --- | 18 07 50 | 63.0 | 97.2 | -2.5 | | -54.1 | 43 | 42 | 23 07 56 |
| 23 10 25 | J2202+4216 | 18 09 10 | 50.4 | 81.3 | -3.9 | | -53.4 | 19 | 42 | 23 10 25 |
| 23 20 25 | =BLLAC | 18 19 12 | 51.9 | 83.1 | -3.7 | | -53.8 | 600 | 45 | 23 10 26 |
| 23 21 45 | J2040+4527 | 18 20 32 | 66.1 | 94.2 | -2.3 | | -58.7 | 13 | 45 | 23 21 45 |
| 23 22 55 | =2039+452 | 18 21 42 | 66.3 | 94.5 | -2.3 | | -58.7 | 70 | 45 | 23 21 46 |
| 23 22 55 | W75N | 18 21 42 | 65.0 | 100.7 | -2.3 | | -53.4 | -28 | 45 | No stop |
| 23 24 05 | --- | 18 22 52 | 65.2 | 101.0 | -2.3 | | -53.3 | 42 | 45 | 23 22 56 |
| 23 24 05 | J2040+4527 | 18 22 52 | 66.5 | 94.7 | -2.3 | | -58.6 | -27 | 45 | No stop |
| 23 25 15 | =2039+452 | 18 24 02 | 66.6 | 95.0 | -2.3 | | -58.6 | 43 | 46 | 23 24 06 |
| 23 25 15 | W75N | 18 24 02 | 65.4 | 101.3 | -2.3 | | -53.2 | -28 | 46 | No stop |
| 23 26 25 | --- | 18 25 13 | 65.5 | 101.6 | -2.2 | | -53.1 | 42 | 46 | 23 25 16 |
| 23 26 25 | J2040+4527 | 18 25 13 | 66.8 | 95.3 | -2.3 | | -58.6 | -28 | 46 | No stop |
| 23 27 35 | =2039+452 | 18 26 23 | 67.0 | 95.5 | -2.2 | | -58.5 | 42 | 46 | 23 26 26 |
| 23 27 35 | W75N | 18 26 23 | 65.7 | 101.9 | -2.2 | | -53.1 | -28 | 46 | No stop |
| 23 28 45 | --- | 18 27 33 | 65.9 | 102.2 | -2.2 | | -53.0 | 42 | 47 | 23 27 36 |
| 23 28 45 | J2040+4527 | 18 27 33 | 67.2 | 95.8 | -2.2 | | -58.5 | -28 | 47 | No stop |
| 23 29 55 | =2039+452 | 18 28 43 | 67.3 | 96.1 | -2.2 | | -58.4 | 42 | 47 | 23 28 46 |

Schedule for TORUN (Code Tr ) Page 12

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 23 29 55 | W75N | 18 28 43 | 66.1 | 102.5 | -2.2 | | -52.9 | -28 | 47 | No stop |
| 23 31 05 | --- | 18 29 53 | 66.2 | 102.9 | -2.2 | | -52.8 | 42 | 47 | 23 29 56 |
| 23 31 05 | J2040+4527 | 18 29 53 | 67.5 | 96.4 | -2.2 | | -58.4 | -28 | 47 | No stop |
| 23 32 15 | =2039+452 | 18 31 04 | 67.7 | 96.6 | -2.2 | | -58.3 | 42 | 47 | 23 31 06 |
| 23 32 15 | W75N | 18 31 04 | 66.4 | 103.2 | -2.1 | | -52.7 | -28 | 47 | No stop |
| 23 33 25 | --- | 18 32 14 | 66.6 | 103.5 | -2.1 | | -52.6 | 42 | 48 | 23 32 16 |
| 23 34 15 | J2040+4527 | 18 33 04 | 68.0 | 97.1 | -2.1 | | -58.2 | 22 | 48 | 23 34 15 |
| 23 35 25 | =2039+452 | 18 34 14 | 68.2 | 97.4 | -2.1 | | -58.2 | 70 | 48 | 23 34 16 |
| 23 35 25 | W75N | 18 34 14 | 66.9 | 104.1 | -2.1 | | -52.4 | -29 | 48 | No stop |
| 23 36 35 | --- | 18 35 24 | 67.0 | 104.4 | -2.1 | | -52.3 | 41 | 48 | 23 35 26 |
| 23 36 35 | J2040+4527 | 18 35 24 | 68.3 | 97.7 | -2.1 | | -58.1 | -28 | 48 | No stop |
| 23 37 45 | =2039+452 | 18 36 34 | 68.5 | 98.0 | -2.1 | | -58.0 | 42 | 49 | 23 36 36 |
| 23 37 45 | W75N | 18 36 34 | 67.2 | 104.8 | -2.0 | | -52.2 | -29 | 49 | No stop |
| 23 38 55 | --- | 18 37 45 | 67.4 | 105.1 | -2.0 | | -52.1 | 41 | 49 | 23 37 46 |
| 23 38 55 | J2040+4527 | 18 37 45 | 68.7 | 98.3 | -2.1 | | -58.0 | -28 | 49 | No stop |
| 23 40 05 | =2039+452 | 18 38 55 | 68.8 | 98.6 | -2.0 | | -57.9 | 42 | 49 | 23 38 56 |
| 23 40 05 | W75N | 18 38 55 | 67.5 | 105.4 | -2.0 | | -51.9 | -29 | 49 | No stop |
| 23 41 15 | --- | 18 40 05 | 67.7 | 105.8 | -2.0 | | -51.8 | 41 | 49 | 23 40 06 |
| 23 41 15 | J2040+4527 | 18 40 05 | 69.0 | 98.9 | -2.0 | | -57.8 | -29 | 49 | No stop |
| 23 42 25 | =2039+452 | 18 41 15 | 69.2 | 99.2 | -2.0 | | -57.8 | 41 | 50 | 23 41 16 |
| 23 42 25 | W75N | 18 41 15 | 67.9 | 106.1 | -2.0 | | -51.7 | -29 | 50 | No stop |
| 23 43 35 | --- | 18 42 25 | 68.0 | 106.5 | -1.9 | | -51.5 | 41 | 50 | 23 42 26 |
| 23 43 35 | J2040+4527 | 18 42 25 | 69.4 | 99.5 | -2.0 | | -57.7 | -29 | 50 | No stop |
| 23 44 45 | =2039+452 | 18 43 36 | 69.5 | 99.8 | -2.0 | | -57.6 | 41 | 50 | 23 43 36 |
| 23 44 45 | W75N | 18 43 36 | 68.2 | 106.9 | -1.9 | | -51.4 | -29 | 50 | No stop |
| 23 45 55 | --- | 18 44 46 | 68.4 | 107.2 | -1.9 | | -51.3 | 41 | 51 | 23 44 46 |
| 23 46 45 | J2040+4527 | 18 45 36 | 69.8 | 100.4 | -1.9 | | -57.4 | 21 | 51 | 23 46 45 |
| 23 47 55 | =2039+452 | 18 46 46 | 70.0 | 100.7 | -1.9 | | -57.3 | 70 | 51 | 23 46 46 |
| 23 47 55 | W75N | 18 46 46 | 68.7 | 107.9 | -1.9 | | -51.0 | -30 | 51 | No stop |
| 23 49 05 | --- | 18 47 56 | 68.8 | 108.2 | -1.9 | | -50.9 | 40 | 51 | 23 47 56 |

Schedule for TORUN (Code Tr ) Page 13

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 17 Jun 2014 Day 168 --- | | | | | | | | | | |
| 23 49 05 | J2040+4527 | 18 47 56 | 70.2 | 101.0 | -1.9 | | -57.2 | -29 | 51 | No stop |
| 23 50 15 | =2039+452 | 18 49 06 | 70.4 | 101.4 | -1.9 | | -57.1 | 41 | 51 | 23 49 06 |
| 23 50 15 | W75N | 18 49 06 | 69.0 | 108.6 | -1.8 | | -50.7 | -30 | 51 | No stop |
| 23 51 25 | --- | 18 50 17 | 69.2 | 109.0 | -1.8 | | -50.6 | 40 | 52 | 23 50 16 |
| 23 51 25 | J2040+4527 | 18 50 17 | 70.5 | 101.7 | -1.9 | | -57.0 | -29 | 52 | No stop |
| 23 52 35 | =2039+452 | 18 51 27 | 70.7 | 102.0 | -1.8 | | -56.9 | 41 | 52 | 23 51 26 |
| 23 52 35 | W75N | 18 51 27 | 69.3 | 109.4 | -1.8 | | -50.4 | -30 | 52 | No stop |
| 23 53 45 | --- | 18 52 37 | 69.5 | 109.8 | -1.8 | | -50.2 | 40 | 52 | 23 52 36 |
| 23 53 45 | J2040+4527 | 18 52 37 | 70.9 | 102.4 | -1.8 | | -56.8 | -30 | 52 | No stop |
| 23 54 55 | =2039+452 | 18 53 47 | 71.0 | 102.7 | -1.8 | | -56.7 | 40 | 52 | 23 53 46 |
| 23 54 55 | W75N | 18 53 47 | 69.7 | 110.2 | -1.8 | | -50.1 | -30 | 52 | No stop |
| 23 56 05 | --- | 18 54 57 | 69.8 | 110.6 | -1.7 | | -49.9 | 40 | 53 | 23 54 56 |
| 23 56 05 | J2040+4527 | 18 54 57 | 71.2 | 103.1 | -1.8 | | -56.6 | -30 | 53 | No stop |
| 23 57 15 | =2039+452 | 18 56 08 | 71.4 | 103.4 | -1.8 | | -56.5 | 40 | 53 | 23 56 06 |
| 23 57 15 | W75N | 18 56 08 | 70.0 | 111.0 | -1.7 | | -49.7 | -30 | 53 | No stop |
| 23 58 25 | --- | 18 57 18 | 70.2 | 111.4 | -1.7 | | -49.5 | 40 | 53 | 23 57 16 |
| --- Start: Tue 17 Jun 2014 Day 168 -- Stop: Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 23 59 15 | J2040+4527 | 18 58 08 | 71.7 | 104.0 | -1.7 | | -56.2 | 20 | 53 | 23 59 15 |
| 00 00 25 | =2039+452 | 18 59 18 | 71.8 | 104.4 | -1.7 | | -56.1 | 70 | 54 | 23 59 16 |
| 00 00 25 | W75N | 18 59 18 | 70.4 | 112.1 | -1.7 | | -49.2 | -31 | 54 | No stop |
| 00 01 35 | --- | 19 00 28 | 70.6 | 112.5 | -1.6 | | -49.0 | 39 | 54 | 00 00 26 |
| 00 01 35 | J2040+4527 | 19 00 28 | 72.0 | 104.8 | -1.7 | | -55.9 | -30 | 54 | No stop |
| 00 02 45 | =2039+452 | 19 01 39 | 72.2 | 105.1 | -1.7 | | -55.8 | 40 | 54 | 00 01 36 |
| 00 02 45 | W75N | 19 01 39 | 70.8 | 112.9 | -1.6 | | -48.8 | -31 | 54 | No stop |
| 00 03 55 | --- | 19 02 49 | 70.9 | 113.4 | -1.6 | | -48.6 | 39 | 54 | 00 02 46 |
| 00 03 55 | J2040+4527 | 19 02 49 | 72.4 | 105.5 | -1.6 | | -55.6 | -30 | 54 | No stop |
| 00 05 05 | =2039+452 | 19 03 59 | 72.5 | 105.9 | -1.6 | | -55.5 | 40 | 55 | 00 03 56 |
| 00 05 05 | W75N | 19 03 59 | 71.1 | 113.8 | -1.6 | | -48.4 | -31 | 55 | No stop |
| 00 06 15 | --- | 19 05 09 | 71.2 | 114.3 | -1.6 | | -48.1 | 39 | 55 | 00 05 06 |

Schedule for TORUN (Code Tr ) Page 14

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 00 06 15 | J2040+4527 | 19 05 09 | 72.7 | 106.3 | -1.6 | | -55.3 | -31 | 55 | No stop |
| 00 07 25 | =2039+452 | 19 06 19 | 72.9 | 106.7 | -1.6 | | -55.2 | 39 | 55 | 00 06 16 |
| 00 07 25 | W75N | 19 06 19 | 71.4 | 114.7 | -1.5 | | -47.9 | -31 | 55 | No stop |
| 00 08 35 | --- | 19 07 30 | 71.6 | 115.2 | -1.5 | | -47.7 | 39 | 56 | 00 07 26 |
| 00 08 35 | J2040+4527 | 19 07 30 | 73.0 | 107.1 | -1.6 | | -55.0 | -31 | 56 | No stop |
| 00 09 45 | =2039+452 | 19 08 40 | 73.2 | 107.5 | -1.5 | | -54.8 | 39 | 56 | 00 08 36 |
| 00 09 45 | W75N | 19 08 40 | 71.7 | 115.6 | -1.5 | | -47.4 | -32 | 56 | No stop |
| 00 10 55 | --- | 19 09 50 | 71.9 | 116.1 | -1.5 | | -47.2 | 38 | 56 | 00 09 46 |
| 00 12 15 | J2202+4216 | 19 11 10 | 59.7 | 93.1 | -2.9 | | -54.2 | 19 | 56 | 00 12 15 |
| 00 22 15 | =BLLAC | 19 21 12 | 61.2 | 95.3 | -2.7 | | -54.0 | 600 | 59 | 00 12 16 |
| 00 24 45 | J2136+0041 | 19 23 42 | 30.8 | 140.1 | -2.2 | | -22.6 | 22 | 59 | 00 24 45 |
| 00 34 45 | =2134+00 | 19 33 44 | 31.7 | 142.8 | -2.1 | | -21.3 | 600 | 61 | 00 24 46 |
| 00 38 05 | J2040+4527 | 19 37 04 | 77.1 | 119.6 | -1.1 | | -48.2 | 16 | 61 | 00 38 05 |
| 00 39 20 | =2039+452 | 19 38 20 | 77.3 | 120.3 | -1.1 | | -47.7 | 75 | 61 | 00 38 06 |
| 00 39 20 | W75N | 19 38 20 | 75.5 | 129.7 | -1.0 | | -38.9 | -34 | 61 | No stop |
| 00 40 35 | --- | 19 39 35 | 75.6 | 130.4 | -1.0 | | -38.4 | 41 | 62 | 00 39 21 |
| 00 40 35 | J2040+4527 | 19 39 35 | 77.4 | 120.9 | -1.0 | | -47.3 | -33 | 62 | No stop |
| 00 41 50 | =2039+452 | 19 40 50 | 77.6 | 121.6 | -1.0 | | -46.8 | 42 | 62 | 00 40 36 |
| 00 41 50 | W75N | 19 40 50 | 75.8 | 131.2 | -1.0 | | -37.9 | -35 | 62 | No stop |
| 00 43 05 | --- | 19 42 05 | 75.9 | 131.9 | -1.0 | | -37.4 | 40 | 62 | 00 41 51 |
| 00 43 05 | J2040+4527 | 19 42 05 | 77.8 | 122.3 | -1.0 | | -46.4 | -34 | 62 | No stop |
| 00 44 20 | =2039+452 | 19 43 20 | 77.9 | 123.1 | -1.0 | | -45.9 | 41 | 63 | 00 43 06 |
| 00 44 20 | W75N | 19 43 20 | 76.0 | 132.7 | -0.9 | | -36.9 | -35 | 63 | No stop |
| 00 45 35 | --- | 19 44 36 | 76.2 | 133.5 | -0.9 | | -36.4 | 40 | 63 | 00 44 21 |
| 00 45 35 | J2040+4527 | 19 44 36 | 78.1 | 123.8 | -0.9 | | -45.4 | -34 | 63 | No stop |
| 00 46 50 | =2039+452 | 19 45 51 | 78.2 | 124.6 | -0.9 | | -44.9 | 41 | 63 | 00 45 36 |
| 00 46 50 | W75N | 19 45 51 | 76.3 | 134.2 | -0.9 | | -35.8 | -35 | 63 | No stop |
| 00 48 05 | --- | 19 47 06 | 76.5 | 135.0 | -0.9 | | -35.3 | 40 | 63 | 00 46 51 |
| 00 48 05 | J2040+4527 | 19 47 06 | 78.4 | 125.3 | -0.9 | | -44.3 | -34 | 63 | No stop |
| 00 49 20 | =2039+452 | 19 48 21 | 78.5 | 126.1 | -0.9 | | -43.8 | 41 | 64 | 00 48 06 |

Schedule for TORUN (Code Tr ) Page 15

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 00 49 20 | W75N | 19 48 21 | 76.6 | 135.8 | -0.8 | | -34.7 | -35 | 64 | No stop |
| 00 50 35 | --- | 19 49 36 | 76.7 | 136.7 | -0.8 | | -34.1 | 40 | 64 | 00 49 21 |
| 00 51 30 | J2040+4527 | 19 50 32 | 78.8 | 127.5 | -0.8 | | -42.8 | 21 | 64 | 00 51 30 |
| 00 52 45 | =2039+452 | 19 51 47 | 78.9 | 128.4 | -0.8 | | -42.2 | 75 | 64 | 00 51 31 |
| 00 52 45 | W75N | 19 51 47 | 76.9 | 138.1 | -0.8 | | -33.0 | -35 | 64 | No stop |
| 00 54 00 | --- | 19 53 02 | 77.1 | 139.0 | -0.8 | | -32.4 | 40 | 65 | 00 52 46 |
| 00 54 00 | J2040+4527 | 19 53 02 | 79.1 | 129.2 | -0.8 | | -41.6 | -34 | 65 | No stop |
| 00 55 15 | =2039+452 | 19 54 17 | 79.2 | 130.1 | -0.8 | | -40.9 | 41 | 65 | 00 54 01 |
| 00 55 15 | W75N | 19 54 17 | 77.2 | 139.9 | -0.7 | | -31.8 | -35 | 65 | No stop |
| 00 56 30 | --- | 19 55 32 | 77.3 | 140.8 | -0.7 | | -31.1 | 40 | 65 | 00 55 16 |
| 00 56 30 | J2040+4527 | 19 55 32 | 79.4 | 131.0 | -0.8 | | -40.3 | -34 | 65 | No stop |
| 00 57 45 | =2039+452 | 19 56 48 | 79.5 | 131.9 | -0.7 | | -39.6 | 41 | 66 | 00 56 31 |
| 00 57 45 | W75N | 19 56 48 | 77.4 | 141.7 | -0.7 | | -30.4 | -35 | 66 | No stop |
| 00 59 00 | --- | 19 58 03 | 77.5 | 142.6 | -0.7 | | -29.8 | 40 | 66 | 00 57 46 |
| 00 59 00 | J2040+4527 | 19 58 03 | 79.7 | 132.9 | -0.7 | | -38.9 | -34 | 66 | No stop |
| 01 00 15 | =2039+452 | 19 59 18 | 79.8 | 133.8 | -0.7 | | -38.2 | 41 | 66 | 00 59 01 |
| 01 00 15 | W75N | 19 59 18 | 77.6 | 143.5 | -0.7 | | -29.1 | -35 | 66 | No stop |
| 01 01 30 | --- | 20 00 33 | 77.8 | 144.5 | -0.6 | | -28.3 | 40 | 66 | 01 00 16 |
| 01 01 30 | J2040+4527 | 20 00 33 | 79.9 | 134.8 | -0.7 | | -37.4 | -34 | 66 | No stop |
| 01 02 45 | =2039+452 | 20 01 48 | 80.1 | 135.8 | -0.7 | | -36.7 | 41 | 67 | 01 01 31 |
| 01 02 45 | W75N | 20 01 48 | 77.9 | 145.4 | -0.6 | | -27.6 | -35 | 67 | No stop |
| 01 04 00 | --- | 20 03 04 | 78.0 | 146.4 | -0.6 | | -26.9 | 40 | 67 | 01 02 46 |
| 01 04 55 | J2040+4527 | 20 03 59 | 80.3 | 137.6 | -0.6 | | -35.3 | 22 | 67 | 01 04 55 |
| 01 06 10 | =2039+452 | 20 05 14 | 80.4 | 138.7 | -0.6 | | -34.4 | 75 | 67 | 01 04 56 |
| 01 06 10 | W75N | 20 05 14 | 78.1 | 148.1 | -0.6 | | -25.5 | -35 | 67 | No stop |
| 01 07 25 | --- | 20 06 29 | 78.2 | 149.2 | -0.5 | | -24.8 | 40 | 68 | 01 06 11 |
| 01 07 25 | J2040+4527 | 20 06 29 | 80.5 | 139.8 | -0.6 | | -33.6 | -33 | 68 | No stop |
| 01 08 40 | =2039+452 | 20 07 44 | 80.7 | 140.9 | -0.6 | | -32.7 | 42 | 68 | 01 07 26 |
| 01 08 40 | W75N | 20 07 44 | 78.3 | 150.2 | -0.5 | | -24.0 | -34 | 68 | No stop |
| 01 09 55 | --- | 20 09 00 | 78.4 | 151.2 | -0.5 | | -23.1 | 41 | 68 | 01 08 41 |

Schedule for TORUN (Code Tr ) Page 16

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 01 09 55 | J2040+4527 | 20 09 00 | 80.8 | 142.1 | -0.5 | | -31.8 | -32 | 68 | No stop |
| 01 11 10 | =2039+452 | 20 10 15 | 80.9 | 143.3 | -0.5 | | -30.8 | 43 | 69 | 01 09 56 |
| 01 11 10 | W75N | 20 10 15 | 78.5 | 152.3 | -0.5 | | -22.3 | -34 | 69 | No stop |
| 01 12 25 | --- | 20 11 30 | 78.6 | 153.4 | -0.5 | | -21.5 | 41 | 69 | 01 11 11 |
| 01 14 10 | J2202+4216 | 20 13 15 | 68.8 | 109.3 | -1.8 | | -50.1 | 2 | 69 | 01 14 10 |
| 01 24 10 | =BLLAC | 20 23 17 | 70.2 | 112.8 | -1.7 | | -48.5 | 600 | 71 | 01 14 11 |
| 01 27 30 | J2040+4527 | 20 26 37 | 82.0 | 161.1 | -0.2 | | -16.2 | 92 | 71 | 01 27 30 |
| 01 28 45 | =2039+452 | 20 27 53 | 82.1 | 162.6 | -0.2 | | -14.9 | 75 | 72 | 01 27 31 |
| 01 28 45 | W75N | 20 27 53 | 79.4 | 168.6 | -0.2 | | -9.3 | -28 | 72 | No stop |
| 01 30 00 | --- | 20 29 08 | 79.4 | 169.9 | -0.2 | | -8.2 | 47 | 72 | 01 28 46 |
| 01 30 00 | J2040+4527 | 20 29 08 | 82.2 | 164.1 | -0.2 | | -13.5 | -26 | 72 | No stop |
| 01 31 15 | =2039+452 | 20 30 23 | 82.2 | 165.7 | -0.2 | | -12.2 | 49 | 72 | 01 30 01 |
| 01 31 15 | W75N | 20 30 23 | 79.5 | 171.1 | -0.1 | | -7.2 | -27 | 72 | No stop |
| 01 32 30 | --- | 20 31 38 | 79.5 | 172.4 | -0.1 | | -6.2 | 48 | 72 | 01 31 16 |
| 01 32 30 | J2040+4527 | 20 31 38 | 82.2 | 167.3 | -0.2 | | -10.9 | -24 | 72 | No stop |
| 01 33 45 | =2039+452 | 20 32 54 | 82.3 | 168.9 | -0.1 | | -9.5 | 51 | 73 | 01 32 31 |
| 01 33 45 | W75N | 20 32 54 | 79.5 | 173.7 | -0.1 | | -5.2 | -25 | 73 | No stop |
| 01 35 00 | --- | 20 34 09 | 79.5 | 174.9 | -0.1 | | -4.1 | 50 | 73 | 01 33 46 |
| 01 35 00 | J2040+4527 | 20 34 09 | 82.3 | 170.5 | -0.1 | | -8.1 | -24 | 73 | No stop |
| 01 36 15 | =2039+452 | 20 35 24 | 82.3 | 172.2 | -0.1 | | -6.7 | 51 | 73 | 01 35 01 |
| 01 36 15 | W75N | 20 35 24 | 79.6 | 176.2 | -0.1 | | -3.1 | -24 | 73 | No stop |
| 01 37 30 | --- | 20 36 39 | 79.6 | 177.5 | -0.0 | | -2.1 | 51 | 74 | 01 36 16 |
| 01 37 30 | J2040+4527 | 20 36 39 | 82.4 | 173.8 | -0.1 | | -5.3 | -24 | 74 | No stop |
| 01 38 45 | =2039+452 | 20 37 54 | 82.4 | 175.5 | -0.1 | | -3.9 | 51 | 74 | 01 37 31 |
| 01 38 45 | W75N | 20 37 54 | 79.6 | 178.7 | -0.0 | | -1.0 | -24 | 74 | No stop |
| 01 40 00 | --- | 20 39 10 | 79.6 | 180.0 | 0.0 | | 0.0 | 51 | 74 | 01 38 46 |
| 01 41 00 | J2040+4527 | 20 40 10 | 82.4 | 178.4 | -0.0 | | -1.3 | 36 | 74 | 01 41 00 |
| 01 42 15 | =2039+452 | 20 41 25 | 82.4 | 180.1 | 0.0 | | 0.1 | 75 | 75 | 01 41 01 |
| 01 42 15 | W75N | 20 41 25 | 79.6 | 182.3 | 0.0 | | 1.9 | -25 | 75 | No stop |
| 01 43 30 | --- | 20 42 40 | 79.6 | 183.6 | 0.1 | | 2.9 | 50 | 75 | 01 42 16 |

Schedule for TORUN (Code Tr ) Page 17

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 01 43 30 | J2040+4527 | 20 42 40 | 82.4 | 181.8 | 0.0 | | 1.5 | -25 | 75 | No stop |
| 01 44 45 | =2039+452 | 20 43 55 | 82.4 | 183.4 | 0.0 | | 2.9 | 50 | 75 | 01 43 31 |
| 01 44 45 | W75N | 20 43 55 | 79.6 | 184.8 | 0.1 | | 4.0 | -25 | 75 | No stop |
| 01 46 00 | --- | 20 45 11 | 79.5 | 186.1 | 0.1 | | 5.0 | 50 | 76 | 01 44 46 |
| 01 46 00 | J2040+4527 | 20 45 11 | 82.4 | 185.1 | 0.1 | | 4.4 | -25 | 76 | No stop |
| 01 47 15 | =2039+452 | 20 46 26 | 82.4 | 186.7 | 0.1 | | 5.8 | 50 | 76 | 01 46 01 |
| 01 47 15 | W75N | 20 46 26 | 79.5 | 187.4 | 0.1 | | 6.0 | -25 | 76 | No stop |
| 01 48 30 | --- | 20 47 41 | 79.5 | 188.6 | 0.1 | | 7.0 | 50 | 76 | 01 47 16 |
| 01 48 30 | J2040+4527 | 20 47 41 | 82.3 | 188.4 | 0.1 | | 7.2 | -25 | 76 | No stop |
| 01 49 45 | =2039+452 | 20 48 56 | 82.3 | 190.0 | 0.1 | | 8.6 | 50 | 76 | 01 48 31 |
| 01 49 45 | W75N | 20 48 56 | 79.5 | 189.9 | 0.2 | | 8.0 | -25 | 76 | No stop |
| 01 51 00 | --- | 20 50 11 | 79.4 | 191.1 | 0.2 | | 9.1 | 50 | 77 | 01 49 46 |
| 01 51 00 | J2040+4527 | 20 50 11 | 82.3 | 191.6 | 0.1 | | 9.9 | -25 | 77 | No stop |
| 01 52 15 | =2039+452 | 20 51 27 | 82.2 | 193.2 | 0.2 | | 11.3 | 50 | 77 | 01 51 01 |
| 01 52 15 | W75N | 20 51 27 | 79.4 | 192.3 | 0.2 | | 10.1 | -25 | 77 | No stop |
| 01 53 30 | --- | 20 52 42 | 79.3 | 193.6 | 0.2 | | 11.1 | 50 | 77 | 01 52 16 |
| 01 54 30 | J2040+4527 | 20 53 42 | 82.1 | 196.1 | 0.2 | | 13.7 | 35 | 77 | 01 54 30 |
| 01 55 45 | =2039+452 | 20 54 57 | 82.1 | 197.6 | 0.2 | | 15.0 | 75 | 78 | 01 54 31 |
| 01 55 45 | W75N | 20 54 57 | 79.3 | 195.8 | 0.3 | | 12.8 | -25 | 78 | No stop |
| 01 57 00 | --- | 20 56 12 | 79.2 | 197.0 | 0.3 | | 13.8 | 50 | 78 | 01 55 46 |
| 01 57 00 | J2040+4527 | 20 56 12 | 82.0 | 199.1 | 0.2 | | 16.3 | -24 | 78 | No stop |
| 01 58 15 | =2039+452 | 20 57 28 | 82.0 | 200.7 | 0.3 | | 17.6 | 51 | 78 | 01 57 01 |
| 01 58 15 | W75N | 20 57 28 | 79.1 | 198.1 | 0.3 | | 14.7 | -25 | 78 | No stop |
| 01 59 30 | --- | 20 58 43 | 79.1 | 199.3 | 0.3 | | 15.7 | 50 | 79 | 01 58 16 |
| 01 59 30 | J2040+4527 | 20 58 43 | 81.9 | 202.1 | 0.3 | | 18.8 | -24 | 79 | No stop |
| 02 00 45 | =2039+452 | 20 59 58 | 81.8 | 203.6 | 0.3 | | 20.1 | 51 | 79 | 01 59 31 |
| 02 00 45 | W75N | 20 59 58 | 79.0 | 200.5 | 0.3 | | 16.6 | -24 | 79 | No stop |
| 02 02 00 | --- | 21 01 13 | 79.0 | 201.6 | 0.4 | | 17.5 | 51 | 79 | 02 00 46 |
| 02 02 00 | J2040+4527 | 21 01 13 | 81.8 | 205.0 | 0.3 | | 21.3 | -24 | 79 | No stop |
| 02 03 15 | =2039+452 | 21 02 28 | 81.7 | 206.5 | 0.4 | | 22.4 | 51 | 79 | 02 02 01 |

Schedule for TORUN (Code Tr ) Page 18

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Stop ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 02 03 15 | W75N | 21 02 28 | 78.9 | 202.8 | 0.4 | | 18.4 | -24 | 79 | No stop |
| 02 04 30 | --- | 21 03 44 | 78.8 | 203.9 | 0.4 | | 19.3 | 51 | 80 | 02 03 16 |
| 02 04 30 | J2040+4527 | 21 03 44 | 81.6 | 207.9 | 0.4 | | 23.6 | -24 | 80 | No stop |
| 02 05 45 | =2039+452 | 21 04 59 | 81.5 | 209.2 | 0.4 | | 24.7 | 51 | 80 | 02 04 31 |
| 02 05 45 | W75N | 21 04 59 | 78.7 | 205.0 | 0.4 | | 20.2 | -24 | 80 | No stop |
| 02 07 00 | --- | 21 06 14 | 78.6 | 206.1 | 0.5 | | 21.1 | 51 | 80 | 02 05 46 |
| 02 09 40 | J2202+4216 | 21 08 54 | 75.9 | 134.3 | -0.9 | | -35.5 | 1 | 80 | 02 09 40 |
| 02 19 40 | =BLLAC | 21 18 56 | 76.9 | 140.9 | -0.7 | | -30.8 | 600 | 83 | 02 09 41 |
| 02 23 00 | J2040+4527 | 21 22 17 | 79.9 | 225.3 | 0.7 | | 37.5 | 17 | 83 | 02 23 00 |
| 02 24 15 | =2039+452 | 21 23 32 | 79.8 | 226.3 | 0.7 | | 38.3 | 75 | 83 | 02 23 01 |
| 02 24 15 | W75N | 21 23 32 | 77.2 | 219.8 | 0.7 | | 31.5 | -27 | 83 | No stop |
| 02 25 30 | --- | 21 24 47 | 77.1 | 220.7 | 0.8 | | 32.2 | 48 | 83 | 02 24 16 |
| 02 25 30 | J2040+4527 | 21 24 47 | 79.6 | 227.3 | 0.7 | | 39.0 | -29 | 83 | No stop |
| 02 26 45 | =2039+452 | 21 26 02 | 79.5 | 228.2 | 0.7 | | 39.7 | 46 | 84 | 02 25 31 |
| 02 26 45 | W75N | 21 26 02 | 77.0 | 221.5 | 0.8 | | 32.8 | -28 | 84 | No stop |
| 02 28 00 | --- | 21 27 17 | 76.9 | 222.4 | 0.8 | | 33.4 | 47 | 84 | 02 26 46 |
| 02 28 00 | J2040+4527 | 21 27 17 | 79.4 | 229.1 | 0.8 | | 40.4 | -29 | 84 | No stop |
| 02 29 15 | =2039+452 | 21 28 33 | 79.2 | 230.0 | 0.8 | | 41.0 | 46 | 84 | 02 28 01 |
| 02 29 15 | W75N | 21 28 33 | 76.7 | 223.2 | 0.8 | | 34.0 | -28 | 84 | No stop |
| 02 30 30 | --- | 21 29 48 | 76.6 | 224.1 | 0.8 | | 34.6 | 47 | 85 | 02 29 16 |
| 02 30 30 | J2040+4527 | 21 29 48 | 79.1 | 230.9 | 0.8 | | 41.7 | -29 | 85 | No stop |
| 02 31 45 | =2039+452 | 21 31 03 | 78.9 | 231.7 | 0.8 | | 42.3 | 46 | 85 | 02 30 31 |
| 02 31 45 | W75N | 21 31 03 | 76.5 | 224.9 | 0.9 | | 35.2 | -28 | 85 | No stop |
| 02 33 00 | --- | 21 32 18 | 76.3 | 225.7 | 0.9 | | 35.7 | 47 | 85 | 02 31 46 |
| 02 33 00 | J2040+4527 | 21 32 18 | 78.8 | 232.6 | 0.8 | | 42.9 | -29 | 85 | No stop |
| 02 34 15 | =2039+452 | 21 33 33 | 78.6 | 233.4 | 0.9 | | 43.5 | 46 | 85 | 02 33 01 |
| 02 34 15 | W75N | 21 33 33 | 76.2 | 226.5 | 0.9 | | 36.3 | -28 | 85 | No stop |
| 02 35 30 | --- | 21 34 49 | 76.1 | 227.2 | 0.9 | | 36.8 | 47 | 86 | 02 34 16 |
| 02 36 20 | J2040+4527 | 21 35 39 | 78.4 | 234.7 | 0.9 | | 44.4 | 21 | 86 | 02 36 20 |
| 02 37 35 | =2039+452 | 21 36 54 | 78.2 | 235.5 | 0.9 | | 44.9 | 75 | 86 | 02 36 21 |

Schedule for TORUN (Code Tr ) Page 19

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 02 37 35 | W75N | 21 36 54 | 75.8 | 228.5 | 1.0 | | 37.7 | -29 | 86 | No stop |
| 02 38 50 | --- | 21 38 09 | 75.7 | 229.2 | 1.0 | | 38.2 | 46 | 86 | 02 37 36 |
| 02 38 50 | J2040+4527 | 21 38 09 | 78.1 | 236.2 | 0.9 | | 45.4 | -30 | 86 | No stop |
| 02 40 05 | =2039+452 | 21 39 24 | 77.9 | 237.0 | 1.0 | | 45.9 | 45 | 87 | 02 38 51 |
| 02 40 05 | W75N | 21 39 24 | 75.5 | 229.9 | 1.0 | | 38.7 | -29 | 87 | No stop |
| 02 41 20 | --- | 21 40 40 | 75.4 | 230.7 | 1.0 | | 39.2 | 46 | 87 | 02 40 06 |
| 02 41 20 | J2040+4527 | 21 40 40 | 77.7 | 237.7 | 1.0 | | 46.4 | -30 | 87 | No stop |
| 02 42 35 | =2039+452 | 21 41 55 | 77.6 | 238.4 | 1.0 | | 46.9 | 45 | 87 | 02 41 21 |
| 02 42 35 | W75N | 21 41 55 | 75.3 | 231.4 | 1.0 | | 39.6 | -29 | 87 | No stop |
| 02 43 50 | --- | 21 43 10 | 75.1 | 232.1 | 1.1 | | 40.1 | 46 | 88 | 02 42 36 |
| 02 43 50 | J2040+4527 | 21 43 10 | 77.4 | 239.1 | 1.0 | | 47.3 | -30 | 88 | No stop |
| 02 45 05 | =2039+452 | 21 44 25 | 77.3 | 239.8 | 1.1 | | 47.8 | 45 | 88 | 02 43 51 |
| 02 45 05 | W75N | 21 44 25 | 75.0 | 232.7 | 1.1 | | 40.5 | -29 | 88 | No stop |
| 02 46 20 | --- | 21 45 40 | 74.8 | 233.4 | 1.1 | | 41.0 | 46 | 88 | 02 45 06 |
| 02 46 20 | J2040+4527 | 21 45 40 | 77.1 | 240.4 | 1.1 | | 48.2 | -29 | 88 | No stop |
| 02 47 35 | =2039+452 | 21 46 56 | 76.9 | 241.1 | 1.1 | | 48.6 | 46 | 89 | 02 46 21 |
| 02 47 35 | W75N | 21 46 56 | 74.7 | 234.1 | 1.1 | | 41.4 | -29 | 89 | No stop |
| 02 48 50 | --- | 21 48 11 | 74.5 | 234.7 | 1.2 | | 41.8 | 46 | 89 | 02 47 36 |
| 02 49 40 | J2040+4527 | 21 49 01 | 76.7 | 242.1 | 1.1 | | 49.2 | 21 | 89 | 02 49 40 |
| 02 50 55 | =2039+452 | 21 50 16 | 76.5 | 242.8 | 1.1 | | 49.6 | 75 | 89 | 02 49 41 |
| 02 50 55 | W75N | 21 50 16 | 74.2 | 235.8 | 1.2 | | 42.5 | -29 | 89 | No stop |
| 02 52 10 | --- | 21 51 31 | 74.1 | 236.4 | 1.2 | | 42.9 | 46 | 89 | 02 50 56 |
| 02 52 10 | J2040+4527 | 21 51 31 | 76.3 | 243.4 | 1.2 | | 50.0 | -29 | 89 | No stop |
| 02 53 25 | =2039+452 | 21 52 47 | 76.2 | 244.0 | 1.2 | | 50.3 | 46 | 90 | 02 52 11 |
| 02 53 25 | W75N | 21 52 47 | 73.9 | 237.0 | 1.2 | | 43.2 | -29 | 90 | No stop |
| 02 54 40 | --- | 21 54 02 | 73.8 | 237.6 | 1.2 | | 43.6 | 46 | 90 | 02 53 26 |
| 02 54 40 | J2040+4527 | 21 54 02 | 76.0 | 244.5 | 1.2 | | 50.7 | -29 | 90 | No stop |
| 02 55 55 | =2039+452 | 21 55 17 | 75.8 | 245.1 | 1.2 | | 51.0 | 46 | 90 | 02 54 41 |
| 02 55 55 | W75N | 21 55 17 | 73.6 | 238.2 | 1.3 | | 44.0 | -28 | 90 | No stop |
| 02 57 10 | --- | 21 56 32 | 73.5 | 238.8 | 1.3 | | 44.3 | 47 | 91 | 02 55 56 |

Schedule for TORUN (Code Tr ) Page 20

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 02 57 10 | J2040+4527 | 21 56 32 | 75.6 | 245.7 | 1.3 | | 51.3 | -29 | 91 | No stop |
| 02 58 25 | =2039+452 | 21 57 47 | 75.5 | 246.2 | 1.3 | | 51.6 | 46 | 91 | 02 57 11 |
| 02 58 25 | W75N | 21 57 47 | 73.3 | 239.4 | 1.3 | | 44.6 | -28 | 91 | No stop |
| 02 59 40 | --- | 21 59 03 | 73.1 | 239.9 | 1.3 | | 45.0 | 47 | 91 | 02 58 26 |
| 02 59 40 | J2040+4527 | 21 59 03 | 75.3 | 246.7 | 1.3 | | 51.9 | -29 | 91 | No stop |
| 03 00 55 | =2039+452 | 22 00 18 | 75.1 | 247.3 | 1.3 | | 52.2 | 46 | 92 | 02 59 41 |
| 03 00 55 | W75N | 22 00 18 | 73.0 | 240.5 | 1.4 | | 45.3 | -28 | 92 | No stop |
| 03 02 10 | --- | 22 01 33 | 72.8 | 241.0 | 1.4 | | 45.6 | 47 | 92 | 03 00 56 |
| 03 06 15 | J2202+4216 | 22 05 39 | 79.2 | 182.3 | 0.0 | | 1.8 | 109 | 92 | 03 06 15 |
| 03 16 15 | =BLLAC | 22 15 40 | 79.1 | 192.1 | 0.2 | | 9.8 | 600 | 94 | 03 06 16 |
| 03 20 55 | J2040+4527 | 22 20 21 | 72.3 | 254.6 | 1.7 | | 55.7 | 141 | 94 | 03 20 55 |
| 03 22 10 | =2039+452 | 22 21 36 | 72.1 | 255.1 | 1.7 | | 55.9 | 75 | 95 | 03 20 56 |
| 03 22 10 | W75N | 22 21 36 | 70.1 | 248.8 | 1.7 | | 49.6 | -27 | 95 | No stop |
| 03 23 25 | --- | 22 22 52 | 69.9 | 249.3 | 1.7 | | 49.8 | 48 | 95 | 03 22 11 |
| 03 23 25 | J2040+4527 | 22 22 52 | 71.9 | 255.4 | 1.7 | | 56.0 | -28 | 95 | No stop |
| 03 24 40 | =2039+452 | 22 24 07 | 71.7 | 255.8 | 1.7 | | 56.2 | 47 | 95 | 03 23 26 |
| 03 24 40 | W75N | 22 24 07 | 69.7 | 249.7 | 1.7 | | 50.0 | -27 | 95 | No stop |
| 03 25 55 | --- | 22 25 22 | 69.5 | 250.1 | 1.8 | | 50.2 | 48 | 95 | 03 24 41 |
| 03 25 55 | J2040+4527 | 22 25 22 | 71.6 | 256.2 | 1.7 | | 56.3 | -27 | 95 | No stop |
| 03 27 10 | =2039+452 | 22 26 37 | 71.4 | 256.6 | 1.8 | | 56.5 | 48 | 96 | 03 25 56 |
| 03 27 10 | W75N | 22 26 37 | 69.4 | 250.5 | 1.8 | | 50.4 | -27 | 96 | No stop |
| 03 28 25 | --- | 22 27 52 | 69.2 | 251.0 | 1.8 | | 50.5 | 48 | 96 | 03 27 11 |
| 03 28 25 | J2040+4527 | 22 27 52 | 71.2 | 257.0 | 1.8 | | 56.6 | -27 | 96 | No stop |
| 03 29 40 | =2039+452 | 22 29 08 | 71.0 | 257.4 | 1.8 | | 56.7 | 48 | 96 | 03 28 26 |
| 03 29 40 | W75N | 22 29 08 | 69.0 | 251.4 | 1.8 | | 50.7 | -27 | 96 | No stop |
| 03 30 55 | --- | 22 30 23 | 68.8 | 251.8 | 1.9 | | 50.9 | 48 | 97 | 03 29 41 |
| 03 30 55 | J2040+4527 | 22 30 23 | 70.8 | 257.7 | 1.8 | | 56.9 | -27 | 97 | No stop |
| 03 32 10 | =2039+452 | 22 31 38 | 70.6 | 258.1 | 1.8 | | 57.0 | 48 | 97 | 03 30 56 |
| 03 32 10 | W75N | 22 31 38 | 68.7 | 252.2 | 1.9 | | 51.0 | -27 | 97 | No stop |
| 03 33 25 | --- | 22 32 53 | 68.5 | 252.6 | 1.9 | | 51.2 | 48 | 97 | 03 32 11 |

Schedule for TORUN (Code Tr ) Page 21

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 03 34 20 | J2040+4527 | 22 33 48 | 70.3 | 258.7 | 1.9 | | 57.2 | 28 | 97 | 03 34 20 |
| 03 35 35 | =2039+452 | 22 35 04 | 70.1 | 259.1 | 1.9 | | 57.3 | 75 | 98 | 03 34 21 |
| 03 35 35 | W75N | 22 35 04 | 68.2 | 253.2 | 1.9 | | 51.5 | -26 | 98 | No stop |
| 03 36 50 | --- | 22 36 19 | 68.0 | 253.6 | 2.0 | | 51.6 | 49 | 98 | 03 35 36 |
| 03 36 50 | J2040+4527 | 22 36 19 | 69.9 | 259.4 | 1.9 | | 57.4 | -27 | 98 | No stop |
| 03 38 05 | =2039+452 | 22 37 34 | 69.8 | 259.8 | 1.9 | | 57.5 | 48 | 98 | 03 36 51 |
| 03 38 05 | W75N | 22 37 34 | 67.8 | 254.0 | 2.0 | | 51.7 | -26 | 98 | No stop |
| 03 39 20 | --- | 22 38 49 | 67.6 | 254.4 | 2.0 | | 51.9 | 49 | 99 | 03 38 06 |
| 03 39 20 | J2040+4527 | 22 38 49 | 69.6 | 260.1 | 2.0 | | 57.6 | -27 | 99 | No stop |
| 03 40 35 | =2039+452 | 22 40 04 | 69.4 | 260.4 | 2.0 | | 57.7 | 48 | 99 | 03 39 21 |
| 03 40 35 | W75N | 22 40 04 | 67.4 | 254.8 | 2.0 | | 52.0 | -26 | 99 | No stop |
| 03 41 50 | --- | 22 41 20 | 67.3 | 255.1 | 2.0 | | 52.1 | 49 | 99 | 03 40 36 |
| 03 41 50 | J2040+4527 | 22 41 20 | 69.2 | 260.8 | 2.0 | | 57.7 | -26 | 99 | No stop |
| 03 43 05 | =2039+452 | 22 42 35 | 69.0 | 261.1 | 2.0 | | 57.8 | 49 | 99 | 03 41 51 |
| 03 43 05 | W75N | 22 42 35 | 67.1 | 255.5 | 2.1 | | 52.3 | -26 | 99 | No stop |
| 03 44 20 | --- | 22 43 50 | 66.9 | 255.8 | 2.1 | | 52.4 | 49 | 100 | 03 43 06 |
| 03 44 20 | J2040+4527 | 22 43 50 | 68.8 | 261.4 | 2.0 | | 57.9 | -26 | 100 | No stop |
| 03 45 35 | =2039+452 | 22 45 05 | 68.6 | 261.7 | 2.1 | | 58.0 | 49 | 100 | 03 44 21 |
| 03 45 35 | W75N | 22 45 05 | 66.7 | 256.2 | 2.1 | | 52.5 | -26 | 100 | No stop |
| 03 46 50 | --- | 22 46 20 | 66.5 | 256.6 | 2.1 | | 52.6 | 49 | 100 | 03 45 36 |
| 03 47 45 | J2040+4527 | 22 47 16 | 68.3 | 262.3 | 2.1 | | 58.1 | 29 | 100 | 03 47 45 |
| 03 49 00 | =2039+452 | 22 48 31 | 68.1 | 262.6 | 2.1 | | 58.2 | 75 | 101 | 03 47 46 |
| 03 49 00 | W75N | 22 48 31 | 66.2 | 257.2 | 2.2 | | 52.8 | -26 | 101 | No stop |
| 03 50 15 | --- | 22 49 46 | 66.0 | 257.5 | 2.2 | | 52.9 | 49 | 101 | 03 49 01 |
| 03 50 15 | J2040+4527 | 22 49 46 | 68.0 | 262.9 | 2.1 | | 58.2 | -26 | 101 | No stop |
| 03 51 30 | =2039+452 | 22 51 01 | 67.8 | 263.2 | 2.2 | | 58.3 | 49 | 101 | 03 50 16 |
| 03 51 30 | W75N | 22 51 01 | 65.8 | 257.8 | 2.2 | | 53.0 | -26 | 101 | No stop |
| 03 52 45 | --- | 22 52 16 | 65.7 | 258.2 | 2.2 | | 53.1 | 49 | 102 | 03 51 31 |
| 03 52 45 | J2040+4527 | 22 52 16 | 67.6 | 263.5 | 2.2 | | 58.4 | -26 | 102 | No stop |
| 03 54 00 | =2039+452 | 22 53 32 | 67.4 | 263.8 | 2.2 | | 58.4 | 49 | 102 | 03 52 46 |

Schedule for TORUN (Code Tr ) Page 22

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 03 54 00 | W75N | 22 53 32 | 65.5 | 258.5 | 2.2 | | 53.2 | -25 | 102 | No stop |
| 03 55 15 | --- | 22 54 47 | 65.3 | 258.8 | 2.3 | | 53.3 | 50 | 102 | 03 54 01 |
| 03 55 15 | J2040+4527 | 22 54 47 | 67.2 | 264.1 | 2.2 | | 58.5 | -26 | 102 | No stop |
| 03 56 30 | =2039+452 | 22 56 02 | 67.0 | 264.4 | 2.2 | | 58.5 | 49 | 102 | 03 55 16 |
| 03 56 30 | W75N | 22 56 02 | 65.1 | 259.2 | 2.3 | | 53.3 | -25 | 102 | No stop |
| 03 57 45 | --- | 22 57 17 | 64.9 | 259.5 | 2.3 | | 53.4 | 50 | 103 | 03 56 31 |
| 03 57 45 | J2040+4527 | 22 57 17 | 66.8 | 264.7 | 2.3 | | 58.6 | -26 | 103 | No stop |
| 03 59 00 | =2039+452 | 22 58 32 | 66.6 | 265.0 | 2.3 | | 58.6 | 49 | 103 | 03 57 46 |
| 03 59 00 | W75N | 22 58 32 | 64.7 | 259.8 | 2.3 | | 53.5 | -25 | 103 | No stop |
| 04 00 15 | --- | 22 59 48 | 64.6 | 260.1 | 2.3 | | 53.6 | 50 | 103 | 03 59 01 |
| 04 04 15 | J2202+4216 | 23 03 48 | 75.3 | 229.2 | 1.0 | | 38.0 | 160 | 103 | 04 04 15 |
| 04 14 15 | =BLLAC | 23 13 50 | 74.1 | 234.6 | 1.2 | | 41.5 | 600 | 106 | 04 04 16 |
| 04 18 30 | J2040+4527 | 23 18 06 | 63.7 | 269.2 | 2.6 | | 59.0 | 172 | 106 | 04 18 30 |
| 04 19 40 | =2039+452 | 23 19 16 | 63.5 | 269.5 | 2.6 | | 59.0 | 70 | 106 | 04 18 31 |
| 04 19 40 | W75N | 23 19 16 | 61.7 | 264.8 | 2.7 | | 54.4 | -24 | 106 | No stop |
| 04 20 50 | --- | 23 20 26 | 61.5 | 265.1 | 2.7 | | 54.5 | 46 | 106 | 04 19 41 |
| 04 20 50 | J2040+4527 | 23 20 26 | 63.4 | 269.7 | 2.7 | | 59.0 | -24 | 106 | No stop |
| 04 22 00 | =2039+452 | 23 21 36 | 63.2 | 269.9 | 2.7 | | 59.0 | 46 | 107 | 04 20 51 |
| 04 22 00 | W75N | 23 21 36 | 61.3 | 265.3 | 2.7 | | 54.5 | -24 | 107 | No stop |
| 04 23 10 | --- | 23 22 46 | 61.1 | 265.6 | 2.7 | | 54.5 | 46 | 107 | 04 22 01 |
| 04 23 10 | J2040+4527 | 23 22 46 | 63.0 | 270.2 | 2.7 | | 59.0 | -24 | 107 | No stop |
| 04 24 20 | =2039+452 | 23 23 57 | 62.8 | 270.4 | 2.7 | | 59.0 | 46 | 107 | 04 23 11 |
| 04 24 20 | W75N | 23 23 57 | 61.0 | 265.8 | 2.7 | | 54.6 | -24 | 107 | No stop |
| 04 25 30 | --- | 23 25 07 | 60.8 | 266.1 | 2.8 | | 54.6 | 46 | 107 | 04 24 21 |
| 04 25 30 | J2040+4527 | 23 25 07 | 62.7 | 270.6 | 2.7 | | 59.0 | -24 | 107 | No stop |
| 04 26 40 | =2039+452 | 23 26 17 | 62.5 | 270.9 | 2.7 | | 59.0 | 46 | 108 | 04 25 31 |
| 04 26 40 | W75N | 23 26 17 | 60.6 | 266.3 | 2.8 | | 54.6 | -24 | 108 | No stop |
| 04 27 50 | --- | 23 27 27 | 60.4 | 266.6 | 2.8 | | 54.6 | 46 | 108 | 04 26 41 |
| 04 27 50 | J2040+4527 | 23 27 27 | 62.3 | 271.1 | 2.8 | | 58.9 | -24 | 108 | No stop |
| 04 29 00 | =2039+452 | 23 28 37 | 62.1 | 271.3 | 2.8 | | 58.9 | 46 | 108 | 04 27 51 |

Schedule for TORUN (Code Tr ) Page 23

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 04 29 00 | W75N | 23 28 37 | 60.3 | 266.8 | 2.8 | | 54.6 | -24 | 108 | No stop |
| 04 30 10 | --- | 23 29 47 | 60.1 | 267.1 | 2.8 | | 54.7 | 46 | 109 | 04 29 01 |
| 04 30 55 | J2040+4527 | 23 30 33 | 61.8 | 271.7 | 2.8 | | 58.9 | 21 | 109 | 04 30 55 |
| 04 32 05 | =2039+452 | 23 31 43 | 61.7 | 271.9 | 2.8 | | 58.9 | 70 | 109 | 04 30 56 |
| 04 32 05 | W75N | 23 31 43 | 59.8 | 267.5 | 2.9 | | 54.7 | -24 | 109 | No stop |
| 04 33 15 | --- | 23 32 53 | 59.6 | 267.8 | 2.9 | | 54.7 | 46 | 109 | 04 32 06 |
| 04 33 15 | J2040+4527 | 23 32 53 | 61.5 | 272.1 | 2.9 | | 58.9 | -24 | 109 | No stop |
| 04 34 25 | =2039+452 | 23 34 03 | 61.3 | 272.4 | 2.9 | | 58.9 | 46 | 109 | 04 33 16 |
| 04 34 25 | W75N | 23 34 03 | 59.4 | 268.0 | 2.9 | | 54.7 | -24 | 109 | No stop |
| 04 35 35 | --- | 23 35 13 | 59.3 | 268.2 | 2.9 | | 54.7 | 46 | 110 | 04 34 26 |
| 04 35 35 | J2040+4527 | 23 35 13 | 61.1 | 272.6 | 2.9 | | 58.9 | -24 | 110 | No stop |
| 04 36 45 | =2039+452 | 23 36 24 | 61.0 | 272.8 | 2.9 | | 58.8 | 46 | 110 | 04 35 36 |
| 04 36 45 | W75N | 23 36 24 | 59.1 | 268.5 | 3.0 | | 54.7 | -23 | 110 | No stop |
| 04 37 55 | --- | 23 37 34 | 58.9 | 268.7 | 3.0 | | 54.7 | 47 | 110 | 04 36 46 |
| 04 37 55 | J2040+4527 | 23 37 34 | 60.8 | 273.0 | 2.9 | | 58.8 | -24 | 110 | No stop |
| 04 39 05 | =2039+452 | 23 38 44 | 60.6 | 273.2 | 3.0 | | 58.8 | 46 | 111 | 04 37 56 |
| 04 39 05 | W75N | 23 38 44 | 58.7 | 269.0 | 3.0 | | 54.8 | -23 | 111 | No stop |
| 04 40 15 | --- | 23 39 54 | 58.6 | 269.2 | 3.0 | | 54.8 | 47 | 111 | 04 39 06 |
| 04 40 15 | J2040+4527 | 23 39 54 | 60.4 | 273.4 | 3.0 | | 58.8 | -24 | 111 | No stop |
| 04 41 25 | =2039+452 | 23 41 04 | 60.3 | 273.7 | 3.0 | | 58.8 | 46 | 111 | 04 40 16 |
| 04 41 25 | W75N | 23 41 04 | 58.4 | 269.4 | 3.0 | | 54.8 | -23 | 111 | No stop |
| 04 42 35 | --- | 23 42 15 | 58.2 | 269.7 | 3.1 | | 54.8 | 47 | 111 | 04 41 26 |
| 04 43 20 | J2040+4527 | 23 43 00 | 60.0 | 274.0 | 3.0 | | 58.7 | 22 | 111 | 04 43 20 |
| 04 44 30 | =2039+452 | 23 44 10 | 59.8 | 274.2 | 3.0 | | 58.7 | 70 | 112 | 04 43 21 |
| 04 44 30 | W75N | 23 44 10 | 57.9 | 270.1 | 3.1 | | 54.8 | -23 | 112 | No stop |
| 04 45 40 | --- | 23 45 20 | 57.7 | 270.3 | 3.1 | | 54.8 | 47 | 112 | 04 44 31 |
| 04 45 40 | J2040+4527 | 23 45 20 | 59.6 | 274.4 | 3.1 | | 58.7 | -23 | 112 | No stop |
| 04 46 50 | =2039+452 | 23 46 30 | 59.5 | 274.6 | 3.1 | | 58.7 | 47 | 112 | 04 45 41 |
| 04 46 50 | W75N | 23 46 30 | 57.6 | 270.5 | 3.1 | | 54.8 | -23 | 112 | No stop |
| 04 48 00 | --- | 23 47 40 | 57.4 | 270.8 | 3.1 | | 54.8 | 47 | 113 | 04 46 51 |

Schedule for TORUN (Code Tr ) Page 24

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 04 48 00 | J2040+4527 | 23 47 40 | 59.3 | 274.8 | 3.1 | | 58.6 | -23 | 113 | No stop |
| 04 49 10 | =2039+452 | 23 48 51 | 59.1 | 275.1 | 3.1 | | 58.6 | 47 | 113 | 04 48 01 |
| 04 49 10 | W75N | 23 48 51 | 57.2 | 271.0 | 3.2 | | 54.8 | -23 | 113 | No stop |
| 04 50 20 | --- | 23 50 01 | 57.0 | 271.2 | 3.2 | | 54.7 | 47 | 113 | 04 49 11 |
| 04 50 20 | J2040+4527 | 23 50 01 | 58.9 | 275.3 | 3.1 | | 58.6 | -23 | 113 | No stop |
| 04 51 30 | =2039+452 | 23 51 11 | 58.8 | 275.5 | 3.2 | | 58.5 | 47 | 113 | 04 50 21 |
| 04 51 30 | W75N | 23 51 11 | 56.9 | 271.4 | 3.2 | | 54.7 | -23 | 113 | No stop |
| 04 52 40 | --- | 23 52 21 | 56.7 | 271.7 | 3.2 | | 54.7 | 47 | 114 | 04 51 31 |
| 04 52 40 | J2040+4527 | 23 52 21 | 58.6 | 275.7 | 3.2 | | 58.5 | -23 | 114 | No stop |
| 04 53 50 | =2039+452 | 23 53 31 | 58.4 | 275.9 | 3.2 | | 58.5 | 47 | 114 | 04 52 41 |
| 04 53 50 | W75N | 23 53 31 | 56.5 | 271.9 | 3.2 | | 54.7 | -23 | 114 | No stop |
| 04 55 00 | --- | 23 54 42 | 56.3 | 272.1 | 3.3 | | 54.7 | 47 | 114 | 04 53 51 |
| 04 55 45 | J2040+4527 | 23 55 27 | 58.1 | 276.2 | 3.2 | | 58.4 | 22 | 114 | 04 55 45 |
| 04 56 55 | =2039+452 | 23 56 37 | 57.9 | 276.4 | 3.3 | | 58.4 | 70 | 115 | 04 55 46 |
| 04 56 55 | W75N | 23 56 37 | 56.1 | 272.5 | 3.3 | | 54.7 | -23 | 115 | No stop |
| 04 58 05 | --- | 23 57 47 | 55.9 | 272.7 | 3.3 | | 54.7 | 47 | 115 | 04 56 56 |
| 04 58 05 | J2040+4527 | 23 57 47 | 57.8 | 276.6 | 3.3 | | 58.3 | -23 | 115 | No stop |
| 04 59 15 | =2039+452 | 23 58 57 | 57.6 | 276.8 | 3.3 | | 58.3 | 47 | 115 | 04 58 06 |
| 04 59 15 | W75N | 23 58 57 | 55.7 | 272.9 | 3.3 | | 54.7 | -23 | 115 | No stop |
| 05 00 25 | --- | 00 00 07 | 55.5 | 273.1 | 3.3 | | 54.6 | 47 | 115 | 04 59 16 |
| 05 00 25 | J2040+4527 | 00 00 07 | 57.4 | 277.0 | 3.3 | | 58.3 | -23 | 115 | No stop |
| 05 01 35 | =2039+452 | 00 01 18 | 57.2 | 277.2 | 3.3 | | 58.2 | 47 | 116 | 05 00 26 |
| 05 01 35 | W75N | 00 01 18 | 55.4 | 273.4 | 3.4 | | 54.6 | -22 | 116 | No stop |
| 05 02 45 | --- | 00 02 28 | 55.2 | 273.6 | 3.4 | | 54.6 | 48 | 116 | 05 01 36 |
| 05 02 45 | J2040+4527 | 00 02 28 | 57.1 | 277.4 | 3.4 | | 58.2 | -23 | 116 | No stop |
| 05 03 55 | =2039+452 | 00 03 38 | 56.9 | 277.6 | 3.4 | | 58.1 | 47 | 116 | 05 02 46 |
| 05 03 55 | W75N | 00 03 38 | 55.0 | 273.8 | 3.4 | | 54.6 | -22 | 116 | No stop |
| 05 05 05 | --- | 00 04 48 | 54.8 | 274.0 | 3.4 | | 54.6 | 48 | 116 | 05 03 56 |
| 05 05 05 | J2040+4527 | 00 04 48 | 56.7 | 277.8 | 3.4 | | 58.1 | -23 | 116 | No stop |
| 05 06 15 | =2039+452 | 00 05 58 | 56.5 | 278.0 | 3.4 | | 58.0 | 47 | 117 | 05 05 06 |

Schedule for TORUN (Code Tr ) Page 25

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 05 06 15 | W75N | 00 05 58 | 54.6 | 274.2 | 3.4 | | 54.5 | -22 | 117 | No stop |
| 05 07 25 | --- | 00 07 09 | 54.5 | 274.5 | 3.5 | | 54.5 | 48 | 117 | 05 06 16 |
| 05 09 45 | J2202+4216 | 00 09 29 | 66.5 | 255.6 | 2.1 | | 51.9 | 80 | 117 | 05 09 45 |
| 05 19 45 | =BLLAC | 00 19 31 | 65.0 | 258.4 | 2.3 | | 52.7 | 600 | 119 | 05 09 46 |
| 05 22 10 | J2040+4527 | 00 21 56 | 54.2 | 280.6 | 3.7 | | 57.4 | 86 | 119 | 05 22 10 |
| 05 23 20 | =2039+452 | 00 23 06 | 54.0 | 280.8 | 3.7 | | 57.3 | 70 | 120 | 05 22 11 |
| 05 23 20 | W75N | 00 23 06 | 52.1 | 277.3 | 3.7 | | 54.1 | -22 | 120 | No stop |
| 05 24 30 | --- | 00 24 16 | 51.9 | 277.5 | 3.8 | | 54.1 | 48 | 120 | 05 23 21 |
| 05 24 30 | J2040+4527 | 00 24 16 | 53.8 | 281.0 | 3.7 | | 57.2 | -22 | 120 | No stop |
| 05 25 40 | =2039+452 | 00 25 27 | 53.7 | 281.2 | 3.7 | | 57.2 | 48 | 120 | 05 24 31 |
| 05 25 40 | W75N | 00 25 27 | 51.7 | 277.7 | 3.8 | | 54.0 | -22 | 120 | No stop |
| 05 26 50 | --- | 00 26 37 | 51.6 | 277.9 | 3.8 | | 54.0 | 48 | 121 | 05 25 41 |
| 05 26 50 | J2040+4527 | 00 26 37 | 53.5 | 281.4 | 3.8 | | 57.1 | -22 | 121 | No stop |
| 05 28 00 | =2039+452 | 00 27 47 | 53.3 | 281.6 | 3.8 | | 57.1 | 48 | 121 | 05 26 51 |
| 05 28 00 | W75N | 00 27 47 | 51.4 | 278.1 | 3.8 | | 54.0 | -22 | 121 | No stop |
| 05 29 10 | --- | 00 28 57 | 51.2 | 278.3 | 3.8 | | 53.9 | 48 | 121 | 05 28 01 |
| 05 29 10 | J2040+4527 | 00 28 57 | 53.1 | 281.8 | 3.8 | | 57.0 | -22 | 121 | No stop |
| 05 30 20 | =2039+452 | 00 30 07 | 53.0 | 282.0 | 3.8 | | 57.0 | 48 | 121 | 05 29 11 |
| 05 30 20 | W75N | 00 30 07 | 51.0 | 278.5 | 3.8 | | 53.9 | -21 | 121 | No stop |
| 05 31 30 | --- | 00 31 18 | 50.9 | 278.7 | 3.9 | | 53.8 | 49 | 122 | 05 30 21 |
| 05 31 30 | J2040+4527 | 00 31 18 | 52.8 | 282.1 | 3.8 | | 56.9 | -22 | 122 | No stop |
| 05 32 40 | =2039+452 | 00 32 28 | 52.6 | 282.3 | 3.9 | | 56.8 | 48 | 122 | 05 31 31 |
| 05 32 40 | W75N | 00 32 28 | 50.7 | 278.9 | 3.9 | | 53.8 | -21 | 122 | No stop |
| 05 33 50 | --- | 00 33 38 | 50.5 | 279.1 | 3.9 | | 53.7 | 49 | 122 | 05 32 41 |
| 05 34 30 | J2040+4527 | 00 34 18 | 52.4 | 282.6 | 3.9 | | 56.7 | 18 | 122 | 05 34 30 |
| 05 35 40 | =2039+452 | 00 35 28 | 52.2 | 282.8 | 3.9 | | 56.7 | 70 | 123 | 05 34 31 |
| 05 35 40 | W75N | 00 35 28 | 50.3 | 279.4 | 3.9 | | 53.7 | -21 | 123 | No stop |
| 05 36 50 | --- | 00 36 38 | 50.1 | 279.6 | 4.0 | | 53.6 | 49 | 123 | 05 35 41 |
| 05 36 50 | J2040+4527 | 00 36 38 | 52.0 | 283.0 | 3.9 | | 56.6 | -21 | 123 | No stop |
| 05 38 00 | =2039+452 | 00 37 49 | 51.9 | 283.2 | 3.9 | | 56.5 | 49 | 123 | 05 36 51 |

Schedule for TORUN (Code Tr ) Page 26

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 05 38 00 | W75N | 00 37 49 | 49.9 | 279.8 | 4.0 | | 53.6 | -21 | 123 | No stop |
| 05 39 10 | --- | 00 38 59 | 49.7 | 280.0 | 4.0 | | 53.5 | 49 | 123 | 05 38 01 |
| 05 39 10 | J2040+4527 | 00 38 59 | 51.7 | 283.4 | 4.0 | | 56.5 | -21 | 123 | No stop |
| 05 40 20 | =2039+452 | 00 40 09 | 51.5 | 283.5 | 4.0 | | 56.4 | 49 | 124 | 05 39 11 |
| 05 40 20 | W75N | 00 40 09 | 49.6 | 280.2 | 4.0 | | 53.5 | -21 | 124 | No stop |
| 05 41 30 | --- | 00 41 19 | 49.4 | 280.4 | 4.0 | | 53.4 | 49 | 124 | 05 40 21 |
| 05 41 30 | J2040+4527 | 00 41 19 | 51.3 | 283.7 | 4.0 | | 56.3 | -21 | 124 | No stop |
| 05 42 40 | =2039+452 | 00 42 29 | 51.2 | 283.9 | 4.0 | | 56.3 | 49 | 124 | 05 41 31 |
| 05 42 40 | W75N | 00 42 29 | 49.2 | 280.6 | 4.1 | | 53.4 | -21 | 124 | No stop |
| 05 43 50 | --- | 00 43 40 | 49.0 | 280.8 | 4.1 | | 53.3 | 49 | 125 | 05 42 41 |
| 05 43 50 | J2040+4527 | 00 43 40 | 51.0 | 284.1 | 4.0 | | 56.2 | -21 | 125 | No stop |
| 05 45 00 | =2039+452 | 00 44 50 | 50.8 | 284.3 | 4.1 | | 56.1 | 49 | 125 | 05 43 51 |
| 05 45 00 | W75N | 00 44 50 | 48.9 | 281.0 | 4.1 | | 53.3 | -21 | 125 | No stop |
| 05 46 10 | --- | 00 46 00 | 48.7 | 281.2 | 4.1 | | 53.2 | 49 | 125 | 05 45 01 |
| 05 46 50 | J2040+4527 | 00 46 40 | 50.6 | 284.5 | 4.1 | | 56.0 | 19 | 125 | 05 46 50 |
| 05 48 00 | =2039+452 | 00 47 50 | 50.4 | 284.7 | 4.1 | | 56.0 | 70 | 125 | 05 46 51 |
| 05 48 00 | W75N | 00 47 50 | 48.4 | 281.5 | 4.1 | | 53.2 | -21 | 125 | No stop |
| 05 49 10 | --- | 00 49 00 | 48.3 | 281.7 | 4.2 | | 53.1 | 49 | 126 | 05 48 01 |
| 05 49 10 | J2040+4527 | 00 49 00 | 50.2 | 284.9 | 4.1 | | 55.9 | -21 | 126 | No stop |
| 05 50 20 | =2039+452 | 00 50 11 | 50.0 | 285.1 | 4.1 | | 55.8 | 49 | 126 | 05 49 11 |
| 05 50 20 | W75N | 00 50 11 | 48.1 | 281.9 | 4.2 | | 53.1 | -21 | 126 | No stop |
| 05 51 30 | --- | 00 51 21 | 47.9 | 282.1 | 4.2 | | 53.0 | 49 | 126 | 05 50 21 |
| 05 51 30 | J2040+4527 | 00 51 21 | 49.9 | 285.3 | 4.2 | | 55.8 | -21 | 126 | No stop |
| 05 52 40 | =2039+452 | 00 52 31 | 49.7 | 285.4 | 4.2 | | 55.7 | 49 | 127 | 05 51 31 |
| 05 52 40 | W75N | 00 52 31 | 47.7 | 282.3 | 4.2 | | 52.9 | -21 | 127 | No stop |
| 05 53 50 | --- | 00 53 41 | 47.6 | 282.5 | 4.2 | | 52.9 | 49 | 127 | 05 52 41 |
| 05 53 50 | J2040+4527 | 00 53 41 | 49.5 | 285.6 | 4.2 | | 55.6 | -21 | 127 | No stop |
| 05 55 00 | =2039+452 | 00 54 51 | 49.4 | 285.8 | 4.2 | | 55.5 | 49 | 127 | 05 53 51 |
| 05 55 00 | W75N | 00 54 51 | 47.4 | 282.7 | 4.3 | | 52.8 | -21 | 127 | No stop |
| 05 56 10 | --- | 00 56 02 | 47.2 | 282.9 | 4.3 | | 52.8 | 49 | 127 | 05 55 01 |

Schedule for TORUN (Code Tr ) Page 27

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Stop HA | Stop UP | Early ParA | Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 05 56 10 | J2040+4527 | 00 56 02 | 49.2 | 286.0 | 4.2 | | 55.5 | -21 | 127 | No stop |
| 05 57 20 | =2039+452 | 00 57 12 | 49.0 | 286.2 | 4.3 | | 55.4 | 49 | 128 | 05 56 11 |
| 05 57 20 | W75N | 00 57 12 | 47.1 | 283.1 | 4.3 | | 52.7 | -21 | 128 | No stop |
| 05 58 30 | --- | 00 58 22 | 46.9 | 283.3 | 4.3 | | 52.7 | 49 | 128 | 05 57 21 |
| 05 59 10 | J2040+4527 | 00 59 02 | 48.8 | 286.4 | 4.3 | | 55.3 | 19 | 128 | 05 59 10 |
| 06 00 20 | =2039+452 | 01 00 12 | 48.6 | 286.6 | 4.3 | | 55.2 | 70 | 128 | 05 59 11 |
| 06 00 20 | W75N | 01 00 12 | 46.6 | 283.6 | 4.4 | | 52.6 | -21 | 128 | No stop |
| 06 01 30 | --- | 01 01 22 | 46.4 | 283.8 | 4.4 | | 52.5 | 49 | 128 | 06 00 21 |
| 06 01 30 | J2040+4527 | 01 01 22 | 48.4 | 286.8 | 4.3 | | 55.1 | -21 | 128 | No stop |
| 06 02 40 | =2039+452 | 01 02 33 | 48.3 | 287.0 | 4.4 | | 55.0 | 49 | 129 | 06 01 31 |
| 06 02 40 | W75N | 01 02 33 | 46.3 | 283.9 | 4.4 | | 52.4 | -21 | 129 | No stop |
| 06 03 50 | --- | 01 03 43 | 46.1 | 284.1 | 4.4 | | 52.4 | 49 | 129 | 06 02 41 |
| 06 03 50 | J2040+4527 | 01 03 43 | 48.1 | 287.1 | 4.4 | | 55.0 | -21 | 129 | No stop |
| 06 05 00 | =2039+452 | 01 04 53 | 47.9 | 287.3 | 4.4 | | 54.9 | 49 | 129 | 06 03 51 |
| 06 05 00 | W75N | 01 04 53 | 45.9 | 284.3 | 4.4 | | 52.3 | -21 | 129 | No stop |
| 06 06 10 | --- | 01 06 03 | 45.8 | 284.5 | 4.4 | | 52.3 | 49 | 130 | 06 05 01 |
| 06 06 10 | J2040+4527 | 01 06 03 | 47.8 | 287.5 | 4.4 | | 54.8 | -21 | 130 | No stop |
| 06 07 20 | =2039+452 | 01 07 13 | 47.6 | 287.7 | 4.4 | | 54.7 | 49 | 130 | 06 06 11 |
| 06 07 20 | W75N | 01 07 13 | 45.6 | 284.7 | 4.5 | | 52.2 | -21 | 130 | No stop |
| 06 08 30 | --- | 01 08 24 | 45.4 | 284.9 | 4.5 | | 52.1 | 49 | 130 | 06 07 21 |
| 06 08 30 | J2040+4527 | 01 08 24 | 47.4 | 287.8 | 4.5 | | 54.6 | -21 | 130 | No stop |
| 06 09 40 | =2039+452 | 01 09 34 | 47.3 | 288.0 | 4.5 | | 54.6 | 49 | 130 | 06 08 31 |
| 06 09 40 | W75N | 01 09 34 | 45.3 | 285.1 | 4.5 | | 52.1 | -22 | 130 | No stop |
| 06 10 50 | --- | 01 10 44 | 45.1 | 285.3 | 4.5 | | 52.0 | 48 | 131 | 06 09 41 |
| 06 12 20 | J2202+4216 | 01 12 14 | 57.1 | 270.3 | 3.1 | | 54.3 | 31 | 131 | 06 12 20 |
| 06 22 20 | =BLLAC | 01 22 16 | 55.6 | 272.3 | 3.3 | | 54.3 | 600 | 133 | 06 12 21 |
| 06 24 00 | J2040+4527 | 01 23 56 | 45.2 | 290.2 | 4.7 | | 53.5 | 47 | 133 | 06 24 00 |
| 06 25 00 | =2039+452 | 01 24 56 | 45.1 | 290.3 | 4.7 | | 53.5 | 60 | 133 | 06 24 01 |
| 06 25 00 | W75N | 01 24 56 | 43.0 | 287.5 | 4.8 | | 51.2 | -22 | 133 | No stop |
| 06 26 00 | --- | 01 25 57 | 42.9 | 287.7 | 4.8 | | 51.1 | 38 | 134 | 06 25 01 |

Schedule for TORUN (Code Tr ) Page 28

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 06 26 00 | J2040+4527 | 01 25 57 | 44.9 | 290.4 | 4.7 | | 53.4 | -21 | 134 | No stop |
| 06 27 00 | =2039+452 | 01 26 57 | 44.8 | 290.6 | 4.8 | | 53.3 | 39 | 134 | 06 26 01 |
| 06 27 00 | W75N | 01 26 57 | 42.8 | 287.8 | 4.8 | | 51.0 | -22 | 134 | No stop |
| 06 28 00 | --- | 01 27 57 | 42.6 | 288.0 | 4.8 | | 51.0 | 38 | 134 | 06 27 01 |
| 06 28 00 | J2040+4527 | 01 27 57 | 44.7 | 290.7 | 4.8 | | 53.3 | -21 | 134 | No stop |
| 06 29 00 | =2039+452 | 01 28 57 | 44.5 | 290.9 | 4.8 | | 53.2 | 39 | 134 | 06 28 01 |
| 06 29 00 | W75N | 01 28 57 | 42.5 | 288.1 | 4.8 | | 50.9 | -22 | 134 | No stop |
| 06 30 00 | --- | 01 29 57 | 42.3 | 288.3 | 4.8 | | 50.8 | 38 | 135 | 06 29 01 |
| 06 30 00 | J2040+4527 | 01 29 57 | 44.4 | 291.0 | 4.8 | | 53.1 | -21 | 135 | No stop |
| 06 31 00 | =2039+452 | 01 30 57 | 44.2 | 291.2 | 4.8 | | 53.0 | 39 | 135 | 06 30 01 |
| 06 31 00 | W75N | 01 30 57 | 42.2 | 288.5 | 4.9 | | 50.8 | -22 | 135 | No stop |
| 06 32 00 | --- | 01 31 57 | 42.0 | 288.6 | 4.9 | | 50.7 | 38 | 135 | 06 31 01 |
| 06 32 00 | J2040+4527 | 01 31 57 | 44.1 | 291.3 | 4.8 | | 52.9 | -21 | 135 | No stop |
| 06 33 00 | =2039+452 | 01 32 58 | 44.0 | 291.5 | 4.9 | | 52.9 | 39 | 135 | 06 32 01 |
| 06 33 00 | W75N | 01 32 58 | 41.9 | 288.8 | 4.9 | | 50.7 | -22 | 135 | No stop |
| 06 34 00 | --- | 01 33 58 | 41.8 | 288.9 | 4.9 | | 50.6 | 38 | 136 | 06 33 01 |
| 06 34 35 | J2040+4527 | 01 34 33 | 43.7 | 291.7 | 4.9 | | 52.8 | 14 | 136 | 06 34 35 |
| 06 35 35 | =2039+452 | 01 35 33 | 43.6 | 291.9 | 4.9 | | 52.7 | 60 | 136 | 06 34 36 |
| 06 35 35 | W75N | 01 35 33 | 41.5 | 289.2 | 4.9 | | 50.5 | -22 | 136 | No stop |
| 06 36 35 | --- | 01 36 33 | 41.4 | 289.3 | 5.0 | | 50.4 | 38 | 136 | 06 35 36 |
| 06 36 35 | J2040+4527 | 01 36 33 | 43.5 | 292.0 | 4.9 | | 52.6 | -21 | 136 | No stop |
| 06 37 35 | =2039+452 | 01 37 33 | 43.3 | 292.2 | 4.9 | | 52.5 | 39 | 136 | 06 36 36 |
| 06 37 35 | W75N | 01 37 33 | 41.2 | 289.5 | 5.0 | | 50.3 | -22 | 136 | No stop |
| 06 38 35 | --- | 01 38 34 | 41.1 | 289.7 | 5.0 | | 50.3 | 38 | 137 | 06 37 36 |
| 06 38 35 | J2040+4527 | 01 38 34 | 43.2 | 292.3 | 5.0 | | 52.4 | -21 | 137 | No stop |
| 06 39 35 | =2039+452 | 01 39 34 | 43.0 | 292.4 | 5.0 | | 52.4 | 39 | 137 | 06 38 36 |
| 06 39 35 | W75N | 01 39 34 | 41.0 | 289.8 | 5.0 | | 50.2 | -22 | 137 | No stop |
| 06 40 35 | --- | 01 40 34 | 40.8 | 290.0 | 5.0 | | 50.1 | 38 | 137 | 06 39 36 |
| 06 40 35 | J2040+4527 | 01 40 34 | 42.9 | 292.6 | 5.0 | | 52.3 | -21 | 137 | No stop |
| 06 41 35 | =2039+452 | 01 41 34 | 42.8 | 292.7 | 5.0 | | 52.2 | 39 | 137 | 06 40 36 |
| 06 41 35 | W75N | 01 41 34 | 40.7 | 290.1 | 5.0 | | 50.1 | -22 | 137 | No stop |
| 06 42 35 | --- | 01 42 34 | 40.5 | 290.3 | 5.1 | | 50.0 | 38 | 138 | 06 41 36 |

Schedule for TORUN (Code Tr ) Page 29

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 06 42 35 | J2040+4527 | 01 42 34 | 42.6 | 292.9 | 5.0 | | 52.1 | -22 | 138 | No stop |
| 06 43 35 | =2039+452 | 01 43 34 | 42.5 | 293.0 | 5.0 | | 52.0 | 38 | 138 | 06 42 36 |
| 06 43 35 | W75N | 01 43 34 | 40.4 | 290.4 | 5.1 | | 49.9 | -22 | 138 | No stop |
| 06 44 35 | --- | 01 44 35 | 40.3 | 290.6 | 5.1 | | 49.9 | 38 | 138 | 06 43 36 |
| 06 45 10 | J2040+4527 | 01 45 10 | 42.3 | 293.3 | 5.1 | | 51.9 | 13 | 138 | 06 45 10 |
| 06 46 10 | =2039+452 | 01 46 10 | 42.1 | 293.4 | 5.1 | | 51.8 | 60 | 138 | 06 45 11 |
| 06 46 10 | W75N | 01 46 10 | 40.0 | 290.8 | 5.1 | | 49.8 | -22 | 138 | No stop |
| 06 47 10 | --- | 01 47 10 | 39.9 | 291.0 | 5.1 | | 49.7 | 38 | 138 | 06 46 11 |
| 06 47 10 | J2040+4527 | 01 47 10 | 42.0 | 293.6 | 5.1 | | 51.8 | -22 | 138 | No stop |
| 06 48 10 | =2039+452 | 01 48 10 | 41.8 | 293.7 | 5.1 | | 51.7 | 38 | 139 | 06 47 11 |
| 06 48 10 | W75N | 01 48 10 | 39.8 | 291.1 | 5.2 | | 49.6 | -22 | 139 | No stop |
| 06 49 10 | --- | 01 49 10 | 39.6 | 291.3 | 5.2 | | 49.6 | 38 | 139 | 06 48 11 |
| 06 49 10 | J2040+4527 | 01 49 10 | 41.7 | 293.9 | 5.1 | | 51.6 | -22 | 139 | No stop |
| 06 50 10 | =2039+452 | 01 50 10 | 41.6 | 294.0 | 5.1 | | 51.5 | 38 | 139 | 06 49 11 |
| 06 50 10 | W75N | 01 50 10 | 39.5 | 291.5 | 5.2 | | 49.5 | -22 | 139 | No stop |
| 06 51 10 | --- | 01 51 11 | 39.3 | 291.6 | 5.2 | | 49.4 | 38 | 139 | 06 50 11 |
| 06 51 10 | J2040+4527 | 01 51 11 | 41.4 | 294.1 | 5.2 | | 51.4 | -22 | 139 | No stop |
| 06 52 10 | =2039+452 | 01 52 11 | 41.3 | 294.3 | 5.2 | | 51.3 | 38 | 140 | 06 51 11 |
| 06 52 10 | W75N | 01 52 11 | 39.2 | 291.8 | 5.2 | | 49.3 | -22 | 140 | No stop |
| 06 53 10 | --- | 01 53 11 | 39.1 | 291.9 | 5.2 | | 49.3 | 38 | 140 | 06 52 11 |
| 06 53 10 | J2040+4527 | 01 53 11 | 41.2 | 294.4 | 5.2 | | 51.3 | -22 | 140 | No stop |
| 06 54 10 | =2039+452 | 01 54 11 | 41.0 | 294.6 | 5.2 | | 51.2 | 38 | 140 | 06 53 11 |
| 06 54 10 | W75N | 01 54 11 | 38.9 | 292.1 | 5.3 | | 49.2 | -22 | 140 | No stop |
| 06 55 10 | --- | 01 55 11 | 38.8 | 292.2 | 5.3 | | 49.1 | 38 | 140 | 06 54 11 |
| 06 55 45 | J2040+4527 | 01 55 46 | 40.8 | 294.8 | 5.2 | | 51.1 | 13 | 140 | 06 55 45 |
| 06 56 45 | =2039+452 | 01 56 47 | 40.7 | 295.0 | 5.3 | | 51.0 | 60 | 141 | 06 55 46 |
| 06 56 45 | W75N | 01 56 47 | 38.6 | 292.5 | 5.3 | | 49.0 | -22 | 141 | No stop |
| 06 57 45 | --- | 01 57 47 | 38.4 | 292.6 | 5.3 | | 48.9 | 38 | 141 | 06 56 46 |
| 06 57 45 | J2040+4527 | 01 57 47 | 40.5 | 295.1 | 5.3 | | 50.9 | -22 | 141 | No stop |
| 06 58 45 | =2039+452 | 01 58 47 | 40.4 | 295.3 | 5.3 | | 50.8 | 38 | 141 | 06 57 46 |
| 06 58 45 | W75N | 01 58 47 | 38.3 | 292.8 | 5.3 | | 48.9 | -22 | 141 | No stop |
| 06 59 45 | --- | 01 59 47 | 38.1 | 292.9 | 5.3 | | 48.8 | 38 | 141 | 06 58 46 |

Schedule for TORUN (Code Tr ) Page 30

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 06 59 45 | J2040+4527 | 01 59 47 | 40.3 | 295.4 | 5.3 | | 50.7 | -22 | 141 | No stop |
| 07 00 45 | =2039+452 | 02 00 47 | 40.1 | 295.5 | 5.3 | | 50.6 | 38 | 142 | 06 59 46 |
| 07 00 45 | W75N | 02 00 47 | 38.0 | 293.1 | 5.4 | | 48.7 | -22 | 142 | No stop |
| 07 01 45 | --- | 02 01 47 | 37.9 | 293.2 | 5.4 | | 48.6 | 38 | 142 | 07 00 46 |
| 07 01 45 | J2040+4527 | 02 01 47 | 40.0 | 295.7 | 5.3 | | 50.5 | -22 | 142 | No stop |
| 07 02 45 | =2039+452 | 02 02 48 | 39.9 | 295.8 | 5.4 | | 50.5 | 38 | 142 | 07 01 46 |
| 07 02 45 | W75N | 02 02 48 | 37.7 | 293.4 | 5.4 | | 48.6 | -22 | 142 | No stop |
| 07 03 45 | --- | 02 03 48 | 37.6 | 293.6 | 5.4 | | 48.5 | 38 | 142 | 07 02 46 |
| 07 03 45 | J2040+4527 | 02 03 48 | 39.7 | 296.0 | 5.4 | | 50.4 | -22 | 142 | No stop |
| 07 04 45 | =2039+452 | 02 04 48 | 39.6 | 296.1 | 5.4 | | 50.3 | 38 | 143 | 07 03 46 |
| 07 04 45 | W75N | 02 04 48 | 37.4 | 293.7 | 5.4 | | 48.4 | -22 | 143 | No stop |
| 07 05 45 | --- | 02 05 48 | 37.3 | 293.9 | 5.4 | | 48.3 | 38 | 143 | 07 04 46 |
| 07 07 00 | J2202+4216 | 02 07 03 | 49.0 | 280.3 | 4.1 | | 53.1 | 17 | 143 | 07 07 00 |
| 07 17 00 | =BLLAC | 02 17 05 | 47.5 | 282.0 | 4.2 | | 52.6 | 600 | 145 | 07 07 01 |
| 07 18 25 | J2040+4527 | 02 18 30 | 37.8 | 298.1 | 5.6 | | 49.1 | 35 | 145 | 07 18 25 |
| 07 19 25 | =2039+452 | 02 19 30 | 37.6 | 298.3 | 5.6 | | 49.0 | 60 | 146 | 07 18 26 |
| 07 19 25 | W75N | 02 19 30 | 35.4 | 296.0 | 5.7 | | 47.3 | -22 | 146 | No stop |
| 07 20 25 | --- | 02 20 30 | 35.3 | 296.1 | 5.7 | | 47.2 | 38 | 146 | 07 19 26 |
| 07 20 25 | J2040+4527 | 02 20 30 | 37.5 | 298.4 | 5.7 | | 48.9 | -22 | 146 | No stop |
| 07 21 25 | =2039+452 | 02 21 31 | 37.4 | 298.6 | 5.7 | | 48.8 | 38 | 146 | 07 20 26 |
| 07 21 25 | W75N | 02 21 31 | 35.2 | 296.3 | 5.7 | | 47.1 | -22 | 146 | No stop |
| 07 22 25 | --- | 02 22 31 | 35.0 | 296.4 | 5.7 | | 47.0 | 38 | 146 | 07 21 26 |
| 07 22 25 | J2040+4527 | 02 22 31 | 37.2 | 298.7 | 5.7 | | 48.7 | -22 | 146 | No stop |
| 07 23 25 | =2039+452 | 02 23 31 | 37.1 | 298.8 | 5.7 | | 48.6 | 38 | 146 | 07 22 26 |
| 07 23 25 | W75N | 02 23 31 | 34.9 | 296.6 | 5.7 | | 46.9 | -22 | 146 | No stop |
| 07 24 25 | --- | 02 24 31 | 34.8 | 296.7 | 5.8 | | 46.8 | 38 | 147 | 07 23 26 |
| 07 24 25 | J2040+4527 | 02 24 31 | 37.0 | 299.0 | 5.7 | | 48.5 | -22 | 147 | No stop |
| 07 25 25 | =2039+452 | 02 25 31 | 36.8 | 299.1 | 5.7 | | 48.5 | 38 | 147 | 07 24 26 |
| 07 25 25 | W75N | 02 25 31 | 34.6 | 296.9 | 5.8 | | 46.8 | -22 | 147 | No stop |
| 07 26 25 | --- | 02 26 31 | 34.5 | 297.0 | 5.8 | | 46.7 | 38 | 147 | 07 25 26 |
| 07 26 25 | J2040+4527 | 02 26 31 | 36.7 | 299.3 | 5.8 | | 48.4 | -22 | 147 | No stop |
| 07 27 25 | =2039+452 | 02 27 32 | 36.6 | 299.4 | 5.8 | | 48.3 | 38 | 147 | 07 26 26 |

Schedule for TORUN (Code Tr ) Page 31

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 07 27 25 | W75N | 02 27 32 | 34.4 | 297.2 | 5.8 | | 46.6 | -22 | 147 | No stop |
| 07 28 25 | --- | 02 28 32 | 34.2 | 297.3 | 5.8 | | 46.5 | 38 | 148 | 07 27 26 |
| 07 29 00 | J2040+4527 | 02 29 07 | 36.4 | 299.7 | 5.8 | | 48.1 | 13 | 148 | 07 29 00 |
| 07 30 00 | =2039+452 | 02 30 07 | 36.2 | 299.8 | 5.8 | | 48.0 | 60 | 148 | 07 29 01 |
| 07 30 00 | W75N | 02 30 07 | 34.0 | 297.6 | 5.8 | | 46.4 | -22 | 148 | No stop |
| 07 31 00 | --- | 02 31 07 | 33.9 | 297.7 | 5.9 | | 46.3 | 38 | 148 | 07 30 01 |
| 07 31 00 | J2040+4527 | 02 31 07 | 36.1 | 299.9 | 5.8 | | 47.9 | -22 | 148 | No stop |
| 07 32 00 | =2039+452 | 02 32 07 | 36.0 | 300.1 | 5.8 | | 47.8 | 38 | 148 | 07 31 01 |
| 07 32 00 | W75N | 02 32 07 | 33.8 | 297.9 | 5.9 | | 46.2 | -22 | 148 | No stop |
| 07 33 00 | --- | 02 33 08 | 33.6 | 298.0 | 5.9 | | 46.1 | 38 | 149 | 07 32 01 |
| 07 33 00 | J2040+4527 | 02 33 08 | 35.8 | 300.2 | 5.9 | | 47.8 | -22 | 149 | No stop |
| 07 34 00 | =2039+452 | 02 34 08 | 35.7 | 300.4 | 5.9 | | 47.7 | 38 | 149 | 07 33 01 |
| 07 34 00 | W75N | 02 34 08 | 33.5 | 298.2 | 5.9 | | 46.0 | -22 | 149 | No stop |
| 07 35 00 | --- | 02 35 08 | 33.4 | 298.4 | 5.9 | | 46.0 | 38 | 149 | 07 34 01 |
| 07 35 00 | J2040+4527 | 02 35 08 | 35.6 | 300.5 | 5.9 | | 47.6 | -22 | 149 | No stop |
| 07 36 00 | =2039+452 | 02 36 08 | 35.4 | 300.7 | 5.9 | | 47.5 | 38 | 149 | 07 35 01 |
| 07 36 00 | W75N | 02 36 08 | 33.2 | 298.5 | 5.9 | | 45.9 | -22 | 149 | No stop |
| 07 37 00 | --- | 02 37 08 | 33.1 | 298.7 | 6.0 | | 45.8 | 38 | 150 | 07 36 01 |
| 07 37 00 | J2040+4527 | 02 37 08 | 35.3 | 300.8 | 5.9 | | 47.4 | -22 | 150 | No stop |
| 07 38 00 | =2039+452 | 02 38 08 | 35.2 | 301.0 | 5.9 | | 47.3 | 38 | 150 | 07 37 01 |
| 07 38 00 | W75N | 02 38 08 | 33.0 | 298.8 | 6.0 | | 45.7 | -22 | 150 | No stop |
| 07 39 00 | --- | 02 39 09 | 32.8 | 299.0 | 6.0 | | 45.6 | 38 | 150 | 07 38 01 |
| 07 39 35 | J2040+4527 | 02 39 44 | 35.0 | 301.2 | 6.0 | | 47.1 | 13 | 150 | 07 39 35 |
| 07 40 35 | =2039+452 | 02 40 44 | 34.9 | 301.3 | 6.0 | | 47.0 | 60 | 150 | 07 39 36 |
| 07 40 35 | W75N | 02 40 44 | 32.6 | 299.2 | 6.0 | | 45.5 | -22 | 150 | No stop |
| 07 41 35 | --- | 02 41 44 | 32.5 | 299.4 | 6.0 | | 45.4 | 38 | 151 | 07 40 36 |
| 07 41 35 | J2040+4527 | 02 41 44 | 34.7 | 301.5 | 6.0 | | 46.9 | -22 | 151 | No stop |
| 07 42 35 | =2039+452 | 02 42 44 | 34.6 | 301.6 | 6.0 | | 46.8 | 38 | 151 | 07 41 36 |
| 07 42 35 | W75N | 02 42 44 | 32.4 | 299.5 | 6.1 | | 45.3 | -22 | 151 | No stop |
| 07 43 35 | --- | 02 43 44 | 32.2 | 299.7 | 6.1 | | 45.2 | 38 | 151 | 07 42 36 |
| 07 43 35 | J2040+4527 | 02 43 44 | 34.5 | 301.8 | 6.0 | | 46.7 | -22 | 151 | No stop |
| 07 44 35 | =2039+452 | 02 44 44 | 34.3 | 301.9 | 6.1 | | 46.7 | 38 | 151 | 07 43 36 |

Schedule for TORUN (Code Tr ) Page 32

Monitoring of the magnetic field and of the outflows expantion in W75N-V

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 07 44 35 | W75N | 02 44 44 | 32.1 | 299.8 | 6.1 | | 45.1 | -22 | 151 | No stop |
| 07 45 35 | --- | 02 45 45 | 32.0 | 300.0 | 6.1 | | 45.0 | 38 | 152 | 07 44 36 |
| 07 45 35 | J2040+4527 | 02 45 45 | 34.2 | 302.1 | 6.1 | | 46.6 | -22 | 152 | No stop |
| 07 46 35 | =2039+452 | 02 46 45 | 34.1 | 302.2 | 6.1 | | 46.5 | 38 | 152 | 07 45 36 |
| 07 46 35 | W75N | 02 46 45 | 31.8 | 300.1 | 6.1 | | 44.9 | -22 | 152 | No stop |
| 07 47 35 | --- | 02 47 45 | 31.7 | 300.3 | 6.1 | | 44.9 | 38 | 152 | 07 46 36 |
| 07 47 35 | J2040+4527 | 02 47 45 | 34.0 | 302.4 | 6.1 | | 46.4 | -22 | 152 | No stop |
| 07 48 35 | =2039+452 | 02 48 45 | 33.8 | 302.5 | 6.1 | | 46.3 | 38 | 152 | 07 47 36 |
| 07 48 35 | W75N | 02 48 45 | 31.6 | 300.4 | 6.2 | | 44.8 | -23 | 152 | No stop |
| 07 49 35 | --- | 02 49 45 | 31.4 | 300.6 | 6.2 | | 44.7 | 37 | 153 | 07 48 36 |
| 07 50 50 | J2202+4216 | 02 51 00 | 42.6 | 287.5 | 4.8 | | 50.8 | 19 | 153 | 07 50 50 |
| 08 00 00 | =BLLAC | 03 00 12 | 41.3 | 288.9 | 4.9 | | 50.2 | 550 | 155 | 07 50 51 |

SETUP FILE INFORMATION:

======== Setup file: sess214.K32

Setup group: 5 Station: TORUN Total bit rate: 32
Format: MARK5B Bits per sample: 2 Sample rate: 8.000
Number of channels: 2 DBE type: Speedup factor: 1.00

Disk used to record data.

| | | |
|---|---|---|
| 1st LO= | 21500.00 | 21500.00 |
| Net SB= | U | U |
| Pol. = | RCP | LCP |
| BBC = | 1 | 5 |
| BBC SB= | U | U |
| IF = | A1 | B1 |

The following frequency sets based on these setups were used.

Frequency Set: 5 Based on FREQ, BW, and/or DOPPLER in schedule.

| | | |
|---|---|---|
| LO sum= | 22234.63 | 22234.63 |
| BBC fr= | 734.63 | 734.63 |
| Bandwd= | 4.00 | 4.00 |

Matching frequency sets: 5

```
  Track assignments are:
   track1=   2,  4
   barrel=roll_off


SOURCES USED IN RECORDING SCANS -- Monitoring of the magnetic field
                                   and of the outflows expantion in W75N-V
    Catalog positions marked with *.
    Precession of date coordinates is based on stop time of first scan.
    Names used in schedule marked with *.
    Short names used in VLA and SNAP files marked with +.
    Observation date used in B1950/J2000 coordinate conversion (PRECDATE):  1979.900
    No adjustments are made for rates (DRA, DDEC).
    Scan hours are for recording scans only.
    Baseline hours are only counted for scans above horizon at both ends.
```

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * W75N | 20 36 49.991014 | * 20 38 36.435000 | 20 39 09.213144 | 0.00 |
| | 42 26 58.43611 | * 42 37 34.84000 | 42 40 39.04459 | 0.00 |
| * J2040+4527 | 20 39 06.383159 | * 20 40 48.333100 | 20 41 19.889401 | 0.46 |
| 2039+452 | 45 16 33.23001 | * 45 27 17.14599 | 45 30 22.86667 | 0.54 |
| * J2136+0041 | 21 34 05.207371 | * 21 36 38.586306 | 21 37 24.093727 | 0.74 |
| 2134+00 | 00 28 25.08000 | * 00 41 54.21282 | 00 45 56.31041 | 1.25 |
| * J2202+4216 | 22 00 39.362504 | * 22 02 43.291371 | 22 03 20.800388 | 0.14 |
| BLLAC | 42 02 08.59073 | * 42 16 39.97987 | 42 20 47.19917 | 0.10 |

```
 The solar corona can cause unstable phases for sources too close to the Sun.
 SCHED provides warnings at individual scans for distances less than 10 degrees.
 The distance from the Sun to each source in this schedule is:
   Source         Sun distance (deg)
  W75N               102.8
  J2040+4527         100.4
  J2136+0041         118.9
  J2202+4216          91.5

 Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
 that the Sun will cause amplitude reductions on the  longest VLBA baselines
 at a solar distance of 60deg F^(-0.6) where F is in GHz.
 For common VLBI bands, this is:
      327 MHz        117. deg
      610 MHz         81. deg
      1.6 GHz         45. deg
      2.3 GHz         36. deg
      5.0 GHz         23. deg
      8.4 GHz         17. deg
     15.0 GHz         12. deg
     22.0 GHz          9. deg
     43.0 GHz          6. deg
```

# er035btr

## Nuclear Environment of the First Radio Loud BALQSO J1556+3517

PI: *Cormac Reynolds*

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Phone: +61 8 9266 3785 EMAIL: c.reynolds@curtin.edu.au
Fax: +61 8 9266 9246 Phone during observation: +61 8 9266 3785

Notes: target/phase calibrator: J1556+3517 / J1602+3326. Fringe finder: 3C345
Coherence test: J1606+3124. Amplitude calibrator: J1606+2717

Schedule for TORUN (Code Tr ) Page 2
The Nuclear Environment of the First Radio Loud BALQSO J1556+3517
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| Next scan frequencies: | | 22187.49 | 22187.49 | 22187.49 | 22187.49 | 22219.49 | 22219.49 | 22219.49 | 22219.4 | |
| | | 22251.49 | 22251.49 | 22251.49 | 22251.49 | 22283.49 | 22283.49 | 22283.49 | 22283.4 | |
| Next BBC frequencies: | | 687.49 | 687.49 | 687.49 | 687.49 | 719.49 | 719.49 | 719.49 | 719.4 | |
| | | 751.49 | 751.49 | 751.49 | 751.49 | 783.49 | 783.49 | 783.49 | 783.4 | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.0 | |
| | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.0 | |
| 15 00 00 | 3C345 | 10 01 21 | 25.3 | 56.7 | -6.7 | | -40.8 | 0 | 0 | 15 00 00 |
| 15 05 00 | --- | 10 06 22 | 25.9 | 57.5 | -6.6 | | -41.2 | 300 | 38 | 15 00 01 |
| 15 05 15 | 3C345 | 10 06 37 | 26.0 | 57.5 | -6.6 | | -41.2 | 9 | 38 | 15 05 15 |
| 15 10 00 | --- | 10 11 23 | 26.6 | 58.3 | -6.5 | | -41.7 | 285 | 75 | 15 05 16 |
| 15 14 43 | J1606+2717 | 10 16 06 | 22.7 | 74.4 | -5.9 | | -40.6 | 237 | 75 | 15 14 43 |
| 15 16 43 | =1604+274 | 10 18 07 | 23.0 | 74.7 | -5.8 | | -40.7 | 120 | 90 | 15 14 44 |
| 15 17 43 | J1602+3326 | 10 19 07 | 28.4 | 71.2 | -5.7 | | -42.9 | 26 | 90 | 15 17 43 |
| 15 18 43 | =1600+335 | 10 20 07 | 28.6 | 71.4 | -5.7 | | -43.0 | 60 | 98 | 15 17 44 |
| 15 18 43 | J1606+3124 | 10 20 07 | 26.5 | 72.3 | -5.8 | | -42.1 | -21 | 98 | No stop |
| 15 20 13 | =1604+315 | 10 21 37 | 26.7 | 72.5 | -5.8 | | -42.1 | 69 | 110 | 15 18 44 |
| 15 20 28 | J1602+3326 | 10 21 52 | 28.8 | 71.7 | -5.7 | | -43.1 | -7 | 110 | 15 20 28 |
| 15 21 28 | =1600+335 | 10 22 53 | 29.0 | 71.9 | -5.7 | | -43.1 | 53 | 117 | 15 20 29 |
| 15 21 28 | J1606+3124 | 10 22 53 | 26.9 | 72.7 | -5.7 | | -42.2 | -21 | 117 | No stop |
| 15 22 58 | =1604+315 | 10 24 23 | 27.1 | 73.0 | -5.7 | | -42.3 | 69 | 129 | 15 21 29 |
| 15 23 13 | J1602+3326 | 10 24 38 | 29.2 | 72.2 | -5.6 | | -43.2 | -7 | 129 | 15 23 13 |
| 15 24 13 | =1600+335 | 10 25 38 | 29.4 | 72.4 | -5.6 | | -43.3 | 53 | 137 | 15 23 14 |
| 15 25 13 | J1602+3326 | 10 26 38 | 29.5 | 72.5 | -5.6 | | -43.3 | 54 | 137 | 15 25 13 |
| 15 26 13 | =1600+335 | 10 27 38 | 29.7 | 72.7 | -5.6 | | -43.4 | 60 | 144 | 15 25 14 |

Schedule for TORUN (Code Tr ) Page 3

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 15 26 13 | J1556+3517 | 10 27 38 | 31.8 | 72.2 | -5.5 | | -44.4 | -22 | 144 | No stop |
| 15 27 43 | --- | 10 29 09 | 32.0 | 72.4 | -5.5 | | -44.5 | 68 | 156 | 15 26 14 |
| 15 27 58 | J1602+3326 | 10 29 24 | 29.9 | 73.0 | -5.6 | | -43.5 | -7 | 156 | 15 27 58 |
| 15 28 58 | =1600+335 | 10 30 24 | 30.0 | 73.2 | -5.5 | | -43.5 | 53 | 163 | 15 27 59 |
| 15 28 58 | J1556+3517 | 10 30 24 | 32.2 | 72.7 | -5.4 | | -44.6 | -22 | 163 | No stop |
| 15 30 28 | --- | 10 31 54 | 32.4 | 72.9 | -5.4 | | -44.7 | 68 | 175 | 15 28 59 |
| 15 30 43 | J1602+3326 | 10 32 09 | 30.3 | 73.5 | -5.5 | | -43.6 | -7 | 175 | 15 30 43 |
| 15 31 43 | =1600+335 | 10 33 09 | 30.4 | 73.7 | -5.5 | | -43.7 | 53 | 183 | 15 30 44 |
| 15 31 43 | J1556+3517 | 10 33 09 | 32.6 | 73.1 | -5.4 | | -44.7 | -22 | 183 | No stop |
| 15 33 13 | --- | 10 34 40 | 32.8 | 73.4 | -5.4 | | -44.8 | 68 | 194 | 15 31 44 |
| 15 33 28 | J1602+3326 | 10 34 55 | 30.7 | 74.0 | -5.5 | | -43.7 | -7 | 194 | 15 33 28 |
| 15 34 28 | =1600+335 | 10 35 55 | 30.8 | 74.2 | -5.4 | | -43.8 | 53 | 202 | 15 33 29 |
| 15 34 28 | J1556+3517 | 10 35 55 | 33.0 | 73.6 | -5.4 | | -44.9 | -22 | 202 | No stop |
| 15 35 58 | --- | 10 37 25 | 33.2 | 73.9 | -5.3 | | -44.9 | 68 | 213 | 15 34 29 |
| 15 36 13 | J1602+3326 | 10 37 40 | 31.1 | 74.5 | -5.4 | | -43.9 | -7 | 213 | 15 36 13 |
| 15 37 13 | =1600+335 | 10 38 40 | 31.2 | 74.6 | -5.4 | | -43.9 | 53 | 221 | 15 36 14 |
| 15 37 13 | J1556+3517 | 10 38 40 | 33.4 | 74.1 | -5.3 | | -45.0 | -22 | 221 | No stop |
| 15 38 43 | --- | 10 40 10 | 33.6 | 74.3 | -5.3 | | -45.1 | 68 | 233 | 15 37 14 |
| 15 38 58 | J1602+3326 | 10 40 25 | 31.5 | 75.0 | -5.4 | | -44.0 | -7 | 233 | 15 38 58 |
| 15 39 58 | =1600+335 | 10 41 26 | 31.6 | 75.1 | -5.4 | | -44.1 | 53 | 240 | 15 38 59 |
| 15 39 58 | J1556+3517 | 10 41 26 | 33.8 | 74.6 | -5.3 | | -45.1 | -22 | 240 | No stop |
| 15 41 28 | --- | 10 42 56 | 34.0 | 74.8 | -5.2 | | -45.2 | 68 | 252 | 15 39 59 |
| 15 41 43 | J1602+3326 | 10 43 11 | 31.9 | 75.4 | -5.3 | | -44.1 | -7 | 252 | 15 41 43 |
| 15 42 43 | =1600+335 | 10 44 11 | 32.0 | 75.6 | -5.3 | | -44.2 | 53 | 260 | 15 41 44 |
| 15 42 43 | J1556+3517 | 10 44 11 | 34.2 | 75.0 | -5.2 | | -45.3 | -22 | 260 | No stop |
| 15 44 13 | --- | 10 45 41 | 34.4 | 75.3 | -5.2 | | -45.3 | 68 | 271 | 15 42 44 |
| 15 44 28 | J1602+3326 | 10 45 56 | 32.3 | 75.9 | -5.3 | | -44.3 | -7 | 271 | 15 44 28 |
| 15 45 28 | =1600+335 | 10 46 57 | 32.4 | 76.1 | -5.3 | | -44.3 | 53 | 279 | 15 44 29 |
| 15 45 28 | J1556+3517 | 10 46 57 | 34.6 | 75.5 | -5.2 | | -45.4 | -22 | 279 | No stop |
| 15 46 58 | --- | 10 48 27 | 34.8 | 75.8 | -5.1 | | -45.5 | 68 | 290 | 15 45 29 |
| 15 47 13 | J1602+3326 | 10 48 42 | 32.7 | 76.4 | -5.2 | | -44.4 | -7 | 290 | 15 47 13 |
| 15 48 13 | =1600+335 | 10 49 42 | 32.8 | 76.6 | -5.2 | | -44.4 | 53 | 298 | 15 47 14 |

Schedule for TORUN (Code Tr ) Page 4

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 15 48 13 | J1556+3517 | 10 49 42 | 35.0 | 76.0 | -5.1 | | -45.5 | -22 | 298 | No stop |
| 15 49 43 | --- | 10 51 12 | 35.2 | 76.3 | -5.1 | | -45.6 | 68 | 310 | 15 48 14 |
| 15 49 58 | J1602+3326 | 10 51 27 | 33.1 | 76.9 | -5.2 | | -44.5 | -7 | 310 | 15 49 58 |
| 15 50 58 | =1600+335 | 10 52 27 | 33.2 | 77.1 | -5.2 | | -44.5 | 53 | 317 | 15 49 59 |
| 15 50 58 | J1556+3517 | 10 52 27 | 35.4 | 76.5 | -5.1 | | -45.6 | -22 | 317 | No stop |
| 15 52 28 | --- | 10 53 58 | 35.6 | 76.7 | -5.1 | | -45.7 | 68 | 329 | 15 50 59 |
| 15 52 43 | J1602+3326 | 10 54 13 | 33.5 | 77.4 | -5.1 | | -44.6 | -7 | 329 | 15 52 43 |
| 15 53 43 | =1600+335 | 10 55 13 | 33.7 | 77.6 | -5.1 | | -44.6 | 53 | 337 | 15 52 44 |
| 15 53 43 | J1556+3517 | 10 55 13 | 35.8 | 77.0 | -5.0 | | -45.8 | -22 | 337 | No stop |
| 15 55 13 | --- | 10 56 43 | 36.0 | 77.2 | -5.0 | | -45.8 | 68 | 348 | 15 53 44 |
| 15 55 28 | J1602+3326 | 10 56 58 | 33.9 | 77.9 | -5.1 | | -44.7 | -7 | 348 | 15 55 28 |
| 15 56 28 | =1600+335 | 10 57 58 | 34.1 | 78.1 | -5.1 | | -44.7 | 53 | 356 | 15 55 29 |
| 15 56 28 | J1556+3517 | 10 57 58 | 36.2 | 77.5 | -5.0 | | -45.9 | -22 | 356 | No stop |
| 15 57 58 | --- | 10 59 29 | 36.4 | 77.7 | -5.0 | | -45.9 | 68 | 367 | 15 56 29 |
| 15 58 13 | J1602+3326 | 10 59 44 | 34.3 | 78.4 | -5.0 | | -44.8 | -7 | 367 | 15 58 13 |
| 15 59 13 | =1600+335 | 11 00 44 | 34.5 | 78.6 | -5.0 | | -44.8 | 53 | 375 | 15 58 14 |
| 15 59 55 | J1606+2717 | 11 01 26 | 29.4 | 82.8 | -5.1 | | -42.1 | 9 | 375 | 15 59 55 |
| 16 01 55 | =1604+274 | 11 03 26 | 29.7 | 83.2 | -5.1 | | -42.1 | 120 | 390 | 15 59 56 |
| 16 02 55 | J1602+3326 | 11 04 26 | 35.0 | 79.2 | -5.0 | | -45.0 | 26 | 390 | 16 02 55 |
| 16 03 55 | =1600+335 | 11 05 26 | 35.2 | 79.4 | -5.0 | | -45.0 | 60 | 398 | 16 02 56 |
| 16 03 55 | J1556+3517 | 11 05 26 | 37.3 | 78.8 | -4.9 | | -46.2 | -22 | 398 | No stop |
| 16 05 25 | --- | 11 06 57 | 37.5 | 79.0 | -4.8 | | -46.2 | 68 | 410 | 16 03 56 |
| 16 05 40 | J1602+3326 | 11 07 12 | 35.4 | 79.7 | -4.9 | | -45.1 | -7 | 410 | 16 05 40 |
| 16 06 40 | =1600+335 | 11 08 12 | 35.6 | 79.9 | -4.9 | | -45.1 | 53 | 417 | 16 05 41 |
| 16 06 40 | J1556+3517 | 11 08 12 | 37.7 | 79.3 | -4.8 | | -46.3 | -22 | 417 | No stop |
| 16 08 10 | --- | 11 09 42 | 37.9 | 79.5 | -4.8 | | -46.3 | 68 | 429 | 16 06 41 |
| 16 08 25 | J1602+3326 | 11 09 57 | 35.8 | 80.2 | -4.9 | | -45.1 | -7 | 429 | 16 08 25 |
| 16 09 25 | =1600+335 | 11 10 57 | 36.0 | 80.4 | -4.9 | | -45.2 | 53 | 437 | 16 08 26 |
| 16 09 25 | J1556+3517 | 11 10 57 | 38.1 | 79.8 | -4.8 | | -46.4 | -22 | 437 | No stop |
| 16 10 55 | --- | 11 12 27 | 38.3 | 80.0 | -4.7 | | -46.4 | 68 | 448 | 16 09 26 |
| 16 11 10 | J1602+3326 | 11 12 43 | 36.2 | 80.7 | -4.8 | | -45.2 | -7 | 448 | 16 11 10 |
| 16 12 10 | =1600+335 | 11 13 43 | 36.4 | 80.9 | -4.8 | | -45.3 | 53 | 456 | 16 11 11 |

Schedule for TORUN (Code Tr ) Page 5

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 16 12 10 | J1556+3517 | 11 13 43 | 38.5 | 80.3 | -4.7 | | -46.5 | -22 | 456 | No stop |
| 16 13 40 | --- | 11 15 13 | 38.7 | 80.5 | -4.7 | | -46.5 | 68 | 467 | 16 12 11 |
| 16 13 55 | J1602+3326 | 11 15 28 | 36.6 | 81.2 | -4.8 | | -45.3 | -7 | 467 | 16 13 55 |
| 16 14 55 | =1600+335 | 11 16 28 | 36.8 | 81.4 | -4.8 | | -45.3 | 53 | 475 | 16 13 56 |
| 16 14 55 | J1556+3517 | 11 16 28 | 38.9 | 80.7 | -4.7 | | -46.5 | -22 | 475 | No stop |
| 16 16 25 | --- | 11 17 58 | 39.1 | 81.0 | -4.7 | | -46.6 | 68 | 487 | 16 14 56 |
| 16 16 40 | J1602+3326 | 11 18 13 | 37.1 | 81.7 | -4.7 | | -45.4 | -7 | 487 | 16 16 40 |
| 16 17 40 | =1600+335 | 11 19 14 | 37.2 | 81.9 | -4.7 | | -45.4 | 53 | 494 | 16 16 41 |
| 16 17 40 | J1556+3517 | 11 19 14 | 39.3 | 81.2 | -4.6 | | -46.6 | -22 | 494 | No stop |
| 16 19 10 | --- | 11 20 44 | 39.5 | 81.5 | -4.6 | | -46.7 | 68 | 506 | 16 17 41 |
| 16 19 25 | J1602+3326 | 11 20 59 | 37.5 | 82.2 | -4.7 | | -45.5 | -7 | 506 | 16 19 25 |
| 16 20 25 | =1600+335 | 11 21 59 | 37.6 | 82.4 | -4.7 | | -45.5 | 53 | 513 | 16 19 26 |
| 16 20 25 | J1556+3517 | 11 21 59 | 39.7 | 81.7 | -4.6 | | -46.7 | -22 | 513 | No stop |
| 16 21 55 | --- | 11 23 29 | 39.9 | 82.0 | -4.6 | | -46.7 | 68 | 525 | 16 20 26 |
| 16 22 10 | J1602+3326 | 11 23 44 | 37.9 | 82.8 | -4.6 | | -45.5 | -7 | 525 | 16 22 10 |
| 16 23 10 | =1600+335 | 11 24 44 | 38.0 | 82.9 | -4.6 | | -45.6 | 53 | 533 | 16 22 11 |
| 16 23 10 | J1556+3517 | 11 24 44 | 40.1 | 82.2 | -4.5 | | -46.8 | -22 | 533 | No stop |
| 16 24 40 | --- | 11 26 15 | 40.4 | 82.5 | -4.5 | | -46.8 | 68 | 544 | 16 23 11 |
| 16 24 55 | J1602+3326 | 11 26 30 | 38.3 | 83.3 | -4.6 | | -45.6 | -7 | 544 | 16 24 55 |
| 16 25 55 | =1600+335 | 11 27 30 | 38.4 | 83.5 | -4.6 | | -45.6 | 53 | 552 | 16 24 56 |
| 16 25 55 | J1556+3517 | 11 27 30 | 40.5 | 82.8 | -4.5 | | -46.8 | -22 | 552 | No stop |
| 16 27 25 | --- | 11 29 00 | 40.8 | 83.0 | -4.5 | | -46.9 | 68 | 563 | 16 25 56 |
| 16 27 40 | J1602+3326 | 11 29 15 | 38.7 | 83.8 | -4.6 | | -45.7 | -7 | 563 | 16 27 40 |
| 16 28 40 | =1600+335 | 11 30 15 | 38.8 | 84.0 | -4.5 | | -45.7 | 53 | 571 | 16 27 41 |
| 16 28 40 | J1556+3517 | 11 30 15 | 41.0 | 83.3 | -4.4 | | -46.9 | -22 | 571 | No stop |
| 16 30 10 | --- | 11 31 46 | 41.2 | 83.5 | -4.4 | | -46.9 | 68 | 583 | 16 28 41 |
| 16 30 25 | J1602+3326 | 11 32 01 | 39.1 | 84.3 | -4.5 | | -45.7 | -7 | 583 | 16 30 25 |
| 16 31 25 | =1600+335 | 11 33 01 | 39.3 | 84.5 | -4.5 | | -45.7 | 53 | 590 | 16 30 26 |
| 16 31 25 | J1556+3517 | 11 33 01 | 41.4 | 83.8 | -4.4 | | -47.0 | -22 | 590 | No stop |
| 16 32 55 | --- | 11 34 31 | 41.6 | 84.1 | -4.4 | | -47.0 | 68 | 602 | 16 31 26 |
| 16 33 10 | J1602+3326 | 11 34 46 | 39.5 | 84.8 | -4.5 | | -45.8 | -7 | 602 | 16 33 10 |
| 16 34 10 | =1600+335 | 11 35 46 | 39.7 | 85.0 | -4.4 | | -45.8 | 53 | 610 | 16 33 11 |

Schedule for TORUN (Code Tr ) Page 6

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 16 34 10 | J1556+3517 | 11 35 46 | 41.8 | 84.3 | -4.4 | | -47.0 | -22 | 610 | No stop |
| 16 35 40 | --- | 11 37 17 | 42.0 | 84.6 | -4.3 | | -47.1 | 68 | 621 | 16 34 11 |
| 16 35 55 | J1602+3326 | 11 37 32 | 39.9 | 85.3 | -4.4 | | -45.8 | -7 | 621 | 16 35 55 |
| 16 36 55 | =1600+335 | 11 38 32 | 40.1 | 85.5 | -4.4 | | -45.8 | 53 | 629 | 16 35 56 |
| 16 36 55 | J1556+3517 | 11 38 32 | 42.2 | 84.8 | -4.3 | | -47.1 | -22 | 629 | No stop |
| 16 38 25 | --- | 11 40 02 | 42.4 | 85.1 | -4.3 | | -47.1 | 68 | 640 | 16 36 56 |
| 16 38 40 | J1602+3326 | 11 40 17 | 40.3 | 85.9 | -4.4 | | -45.8 | -7 | 640 | 16 38 40 |
| 16 39 40 | =1600+335 | 11 41 17 | 40.5 | 86.1 | -4.4 | | -45.9 | 53 | 648 | 16 38 41 |
| 16 39 40 | J1556+3517 | 11 41 17 | 42.6 | 85.3 | -4.3 | | -47.1 | -22 | 648 | No stop |
| 16 41 10 | --- | 11 42 47 | 42.8 | 85.6 | -4.2 | | -47.2 | 68 | 660 | 16 39 41 |
| 16 41 25 | J1602+3326 | 11 43 02 | 40.8 | 86.4 | -4.3 | | -45.9 | -7 | 660 | 16 41 25 |
| 16 42 25 | =1600+335 | 11 44 03 | 40.9 | 86.6 | -4.3 | | -45.9 | 53 | 667 | 16 41 26 |
| 16 42 25 | J1556+3517 | 11 44 03 | 43.0 | 85.8 | -4.2 | | -47.2 | -22 | 667 | No stop |
| 16 43 55 | --- | 11 45 33 | 43.2 | 86.1 | -4.2 | | -47.2 | 68 | 679 | 16 42 26 |
| 16 44 10 | J1602+3326 | 11 45 48 | 41.2 | 86.9 | -4.3 | | -45.9 | -7 | 679 | 16 44 10 |
| 16 45 10 | =1600+335 | 11 46 48 | 41.3 | 87.1 | -4.3 | | -45.9 | 53 | 687 | 16 44 11 |
| 16 45 51 | J1606+2717 | 11 47 29 | 36.3 | 91.8 | -4.3 | | -42.5 | 8 | 687 | 16 45 51 |
| 16 47 51 | =1604+274 | 11 49 30 | 36.6 | 92.2 | -4.3 | | -42.4 | 120 | 702 | 16 45 52 |
| 16 48 51 | J1602+3326 | 11 50 30 | 41.9 | 87.8 | -4.2 | | -46.0 | 27 | 702 | 16 48 51 |
| 16 49 51 | =1600+335 | 11 51 30 | 42.0 | 88.0 | -4.2 | | -46.0 | 60 | 710 | 16 48 52 |
| 16 49 51 | J1556+3517 | 11 51 30 | 44.1 | 87.3 | -4.1 | | -47.3 | -22 | 710 | No stop |
| 16 51 21 | --- | 11 53 00 | 44.4 | 87.6 | -4.1 | | -47.3 | 68 | 721 | 16 49 52 |
| 16 51 36 | J1602+3326 | 11 53 15 | 42.3 | 88.4 | -4.2 | | -46.0 | -7 | 721 | 16 51 36 |
| 16 52 36 | =1600+335 | 11 54 16 | 42.4 | 88.6 | -4.1 | | -46.0 | 53 | 729 | 16 51 37 |
| 16 52 36 | J1556+3517 | 11 54 16 | 44.5 | 87.8 | -4.0 | | -47.3 | -22 | 729 | No stop |
| 16 54 06 | --- | 11 55 46 | 44.8 | 88.1 | -4.0 | | -47.3 | 68 | 740 | 16 52 37 |
| 16 54 21 | J1602+3326 | 11 56 01 | 42.7 | 88.9 | -4.1 | | -46.0 | -7 | 740 | 16 54 21 |
| 16 55 21 | =1600+335 | 11 57 01 | 42.9 | 89.1 | -4.1 | | -46.0 | 53 | 748 | 16 54 22 |
| 16 55 21 | J1556+3517 | 11 57 01 | 45.0 | 88.3 | -4.0 | | -47.3 | -22 | 748 | No stop |
| 16 56 51 | --- | 11 58 31 | 45.2 | 88.6 | -4.0 | | -47.3 | 68 | 760 | 16 55 22 |
| 16 57 06 | J1602+3326 | 11 58 46 | 43.1 | 89.5 | -4.1 | | -46.0 | -7 | 760 | 16 57 06 |
| 16 58 06 | =1600+335 | 11 59 46 | 43.3 | 89.7 | -4.0 | | -46.0 | 53 | 767 | 16 57 07 |

Schedule for TORUN (Code Tr ) Page 7

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 16 58 06 | J1556+3517 | 11 59 46 | 45.4 | 88.9 | -4.0 | | -47.3 | -22 | 767 | No stop |
| 16 59 36 | --- | 12 01 17 | 45.6 | 89.2 | -3.9 | | -47.3 | 68 | 779 | 16 58 07 |
| 16 59 51 | J1602+3326 | 12 01 32 | 43.5 | 90.0 | -4.0 | | -46.0 | -7 | 779 | 16 59 51 |
| 17 00 51 | =1600+335 | 12 02 32 | 43.7 | 90.2 | -4.0 | | -46.0 | 53 | 787 | 16 59 52 |
| 17 00 51 | J1556+3517 | 12 02 32 | 45.8 | 89.4 | -3.9 | | -47.3 | -22 | 787 | No stop |
| 17 02 21 | --- | 12 04 02 | 46.0 | 89.7 | -3.9 | | -47.3 | 68 | 798 | 17 00 52 |
| 17 02 36 | J1602+3326 | 12 04 17 | 43.9 | 90.6 | -4.0 | | -46.0 | -7 | 798 | 17 02 36 |
| 17 03 36 | =1600+335 | 12 05 17 | 44.1 | 90.8 | -4.0 | | -46.0 | 53 | 806 | 17 02 37 |
| 17 03 36 | J1556+3517 | 12 05 17 | 46.2 | 90.0 | -3.9 | | -47.3 | -22 | 806 | No stop |
| 17 05 06 | --- | 12 06 48 | 46.4 | 90.3 | -3.8 | | -47.3 | 68 | 817 | 17 03 37 |
| 17 05 21 | J1602+3326 | 12 07 03 | 44.4 | 91.1 | -3.9 | | -46.0 | -7 | 817 | 17 05 21 |
| 17 06 21 | =1600+335 | 12 08 03 | 44.5 | 91.3 | -3.9 | | -46.0 | 53 | 825 | 17 05 22 |
| 17 06 21 | J1556+3517 | 12 08 03 | 46.6 | 90.5 | -3.8 | | -47.3 | -22 | 825 | No stop |
| 17 07 51 | --- | 12 09 33 | 46.8 | 90.8 | -3.8 | | -47.3 | 68 | 837 | 17 06 22 |
| 17 08 06 | J1602+3326 | 12 09 48 | 44.8 | 91.7 | -3.9 | | -46.0 | -7 | 837 | 17 08 06 |
| 17 09 06 | =1600+335 | 12 10 48 | 44.9 | 91.9 | -3.9 | | -46.0 | 53 | 844 | 17 08 07 |
| 17 09 06 | J1556+3517 | 12 10 48 | 47.0 | 91.1 | -3.8 | | -47.3 | -22 | 844 | No stop |
| 17 10 36 | --- | 12 12 19 | 47.3 | 91.4 | -3.7 | | -47.3 | 68 | 856 | 17 09 07 |
| 17 10 51 | J1602+3326 | 12 12 34 | 45.2 | 92.2 | -3.8 | | -46.0 | -7 | 856 | 17 10 51 |
| 17 11 51 | =1600+335 | 12 13 34 | 45.3 | 92.5 | -3.8 | | -45.9 | 53 | 863 | 17 10 52 |
| 17 11 51 | J1556+3517 | 12 13 34 | 47.4 | 91.6 | -3.7 | | -47.3 | -22 | 863 | No stop |
| 17 13 21 | --- | 12 15 04 | 47.7 | 92.0 | -3.7 | | -47.3 | 68 | 875 | 17 11 52 |
| 17 13 36 | J1602+3326 | 12 15 19 | 45.6 | 92.8 | -3.8 | | -45.9 | -7 | 875 | 17 13 36 |
| 17 14 36 | =1600+335 | 12 16 19 | 45.7 | 93.0 | -3.8 | | -45.9 | 53 | 883 | 17 13 37 |
| 17 14 36 | J1556+3517 | 12 16 19 | 47.9 | 92.2 | -3.7 | | -47.3 | -22 | 883 | No stop |
| 17 16 06 | --- | 12 17 49 | 48.1 | 92.5 | -3.7 | | -47.3 | 68 | 894 | 17 14 37 |
| 17 16 21 | J1602+3326 | 12 18 04 | 46.0 | 93.4 | -3.7 | | -45.9 | -7 | 894 | 17 16 21 |
| 17 17 21 | =1600+335 | 12 19 05 | 46.2 | 93.6 | -3.7 | | -45.9 | 53 | 902 | 17 16 22 |
| 17 17 21 | J1556+3517 | 12 19 05 | 48.3 | 92.8 | -3.6 | | -47.3 | -22 | 902 | No stop |
| 17 18 51 | --- | 12 20 35 | 48.5 | 93.1 | -3.6 | | -47.3 | 68 | 913 | 17 17 22 |

Schedule for TORUN (Code Tr ) Page 8

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 17 19 06 | J1602+3326 | 12 20 50 | 46.4 | 94.0 | -3.7 | | -45.9 | -7 | 913 | 17 19 06 |
| 17 20 06 | =1600+335 | 12 21 50 | 46.6 | 94.2 | -3.7 | | -45.8 | 53 | 921 | 17 19 07 |
| 17 20 06 | J1556+3517 | 12 21 50 | 48.7 | 93.4 | -3.6 | | -47.2 | -22 | 921 | No stop |
| 17 21 36 | --- | 12 23 20 | 48.9 | 93.7 | -3.6 | | -47.2 | 68 | 933 | 17 20 07 |
| 17 21 51 | J1602+3326 | 12 23 35 | 46.8 | 94.6 | -3.7 | | -45.8 | -7 | 933 | 17 21 51 |
| 17 22 51 | =1600+335 | 12 24 36 | 47.0 | 94.8 | -3.6 | | -45.8 | 53 | 940 | 17 21 52 |
| 17 22 51 | J1556+3517 | 12 24 36 | 49.1 | 93.9 | -3.5 | | -47.2 | -22 | 940 | No stop |
| 17 24 21 | --- | 12 26 06 | 49.3 | 94.3 | -3.5 | | -47.2 | 68 | 952 | 17 22 52 |
| 17 24 36 | J1602+3326 | 12 26 21 | 47.2 | 95.1 | -3.6 | | -45.8 | -7 | 952 | 17 24 36 |
| 17 25 36 | =1600+335 | 12 27 21 | 47.4 | 95.4 | -3.6 | | -45.7 | 53 | 960 | 17 24 37 |
| 17 25 36 | J1556+3517 | 12 27 21 | 49.5 | 94.5 | -3.5 | | -47.1 | -22 | 960 | No stop |
| 17 27 06 | --- | 12 28 51 | 49.7 | 94.9 | -3.5 | | -47.1 | 68 | 971 | 17 25 37 |
| 17 27 21 | J1602+3326 | 12 29 06 | 47.7 | 95.7 | -3.6 | | -45.7 | -7 | 971 | 17 27 21 |
| 17 28 21 | =1600+335 | 12 30 06 | 47.8 | 96.0 | -3.5 | | -45.7 | 53 | 979 | 17 27 22 |
| 17 28 21 | J1556+3517 | 12 30 06 | 49.9 | 95.1 | -3.5 | | -47.1 | -22 | 979 | No stop |
| 17 29 51 | --- | 12 31 37 | 50.1 | 95.4 | -3.4 | | -47.1 | 68 | 990 | 17 28 22 |
| 17 30 06 | J1602+3326 | 12 31 52 | 48.1 | 96.3 | -3.5 | | -45.6 | -7 | 990 | 17 30 06 |
| 17 31 06 | =1600+335 | 12 32 52 | 48.2 | 96.6 | -3.5 | | -45.6 | 53 | 998 | 17 30 07 |
| 17 32 07 | 3C345 | 12 33 53 | 46.5 | 81.7 | -4.2 | | -50.6 | 16 | 998 | 17 32 07 |
| 17 36 07 | --- | 12 37 54 | 47.1 | 82.4 | -4.1 | | -50.8 | 240 | 1029 | 17 32 08 |
| 17 36 22 | 3C345 | 12 38 09 | 47.1 | 82.4 | -4.1 | | -50.8 | 9 | 1029 | 17 36 22 |
| 17 40 07 | --- | 12 41 55 | 47.7 | 83.1 | -4.0 | | -50.9 | 225 | 1058 | 17 36 23 |
| 17 41 22 | J1606+2717 | 12 43 09 | 44.5 | 103.9 | -3.4 | | -41.0 | 18 | 1058 | 17 41 22 |
| 17 43 22 | =1604+274 | 12 45 10 | 44.8 | 104.4 | -3.4 | | -40.9 | 120 | 1073 | 17 41 23 |
| 17 44 22 | J1602+3326 | 12 46 10 | 50.2 | 99.5 | -3.3 | | -45.2 | 26 | 1073 | 17 44 22 |
| 17 45 22 | =1600+335 | 12 47 10 | 50.3 | 99.8 | -3.3 | | -45.1 | 60 | 1081 | 17 44 23 |
| 17 45 22 | J1556+3517 | 12 47 10 | 52.5 | 98.9 | -3.2 | | -46.6 | -22 | 1081 | No stop |
| 17 46 52 | --- | 12 48 40 | 52.7 | 99.3 | -3.1 | | -46.5 | 68 | 1092 | 17 45 23 |
| 17 47 07 | J1602+3326 | 12 48 55 | 50.6 | 100.2 | -3.2 | | -45.1 | -7 | 1092 | 17 47 07 |
| 17 48 07 | =1600+335 | 12 49 55 | 50.8 | 100.4 | -3.2 | | -45.0 | 53 | 1100 | 17 47 08 |

Schedule for TORUN (Code Tr ) Page 9

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 17 48 07 | J1556+3517 | 12 49 55 | 52.9 | 99.6 | -3.1 | | -46.5 | -22 | 1100 | No stop |
| 17 49 37 | --- | 12 51 26 | 53.1 | 99.9 | -3.1 | | -46.4 | 68 | 1112 | 17 48 08 |
| 17 49 52 | J1602+3326 | 12 51 41 | 51.0 | 100.8 | -3.2 | | -45.0 | -7 | 1112 | 17 49 52 |
| 17 50 52 | =1600+335 | 12 52 41 | 51.2 | 101.1 | -3.2 | | -44.9 | 53 | 1119 | 17 49 53 |
| 17 50 52 | J1556+3517 | 12 52 41 | 53.3 | 100.2 | -3.1 | | -46.4 | -22 | 1119 | No stop |
| 17 52 22 | --- | 12 54 11 | 53.5 | 100.6 | -3.0 | | -46.3 | 68 | 1131 | 17 50 53 |
| 17 52 37 | J1602+3326 | 12 54 26 | 51.4 | 101.5 | -3.1 | | -44.8 | -7 | 1131 | 17 52 37 |
| 17 53 37 | =1600+335 | 12 55 26 | 51.6 | 101.7 | -3.1 | | -44.8 | 53 | 1138 | 17 52 38 |
| 17 53 37 | J1556+3517 | 12 55 26 | 53.7 | 100.9 | -3.0 | | -46.2 | -22 | 1138 | No stop |
| 17 55 07 | --- | 12 56 57 | 53.9 | 101.2 | -3.0 | | -46.2 | 68 | 1150 | 17 53 38 |
| 17 55 22 | J1602+3326 | 12 57 12 | 51.8 | 102.1 | -3.1 | | -44.7 | -7 | 1150 | 17 55 22 |
| 17 56 22 | =1600+335 | 12 58 12 | 52.0 | 102.4 | -3.1 | | -44.6 | 53 | 1158 | 17 55 23 |
| 17 56 22 | J1556+3517 | 12 58 12 | 54.1 | 101.5 | -3.0 | | -46.1 | -22 | 1158 | No stop |
| 17 57 52 | --- | 12 59 42 | 54.3 | 101.9 | -3.0 | | -46.0 | 68 | 1169 | 17 56 23 |
| 17 58 07 | J1602+3326 | 12 59 57 | 52.2 | 102.8 | -3.0 | | -44.5 | -7 | 1169 | 17 58 07 |
| 17 59 07 | =1600+335 | 13 00 57 | 52.4 | 103.0 | -3.0 | | -44.5 | 53 | 1177 | 17 58 08 |
| 17 59 07 | J1556+3517 | 13 00 57 | 54.5 | 102.2 | -2.9 | | -46.0 | -22 | 1177 | No stop |
| 18 00 37 | --- | 13 02 28 | 54.7 | 102.6 | -2.9 | | -45.9 | 68 | 1188 | 17 59 08 |
| 18 00 52 | J1602+3326 | 13 02 43 | 52.6 | 103.5 | -3.0 | | -44.4 | -7 | 1188 | 18 00 52 |
| 18 01 52 | =1600+335 | 13 03 43 | 52.8 | 103.7 | -3.0 | | -44.3 | 53 | 1196 | 18 00 53 |
| 18 01 52 | J1556+3517 | 13 03 43 | 54.9 | 102.9 | -2.9 | | -45.8 | -22 | 1196 | No stop |
| 18 03 22 | --- | 13 05 13 | 55.1 | 103.2 | -2.9 | | -45.7 | 68 | 1208 | 18 01 53 |
| 18 03 37 | J1602+3326 | 13 05 28 | 53.0 | 104.1 | -3.0 | | -44.2 | -7 | 1208 | 18 03 37 |
| 18 04 37 | =1600+335 | 13 06 28 | 53.2 | 104.4 | -2.9 | | -44.2 | 53 | 1215 | 18 03 38 |
| 18 04 37 | J1556+3517 | 13 06 28 | 55.3 | 103.6 | -2.8 | | -45.6 | -22 | 1215 | No stop |
| 18 06 07 | --- | 13 07 58 | 55.5 | 103.9 | -2.8 | | -45.5 | 68 | 1227 | 18 04 38 |
| 18 06 22 | J1602+3326 | 13 08 13 | 53.4 | 104.8 | -2.9 | | -44.1 | -7 | 1227 | 18 06 22 |
| 18 07 22 | =1600+335 | 13 09 14 | 53.6 | 105.1 | -2.9 | | -44.0 | 53 | 1235 | 18 06 23 |
| 18 07 22 | J1556+3517 | 13 09 14 | 55.7 | 104.3 | -2.8 | | -45.5 | -22 | 1235 | No stop |
| 18 08 52 | --- | 13 10 44 | 55.9 | 104.6 | -2.8 | | -45.4 | 68 | 1246 | 18 07 23 |

Schedule for TORUN (Code Tr ) Page 10

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 18 09 07 | J1602+3326 | 13 10 59 | 53.8 | 105.5 | -2.9 | | -43.9 | -7 | 1246 | 18 09 07 |
| 18 10 07 | =1600+335 | 13 11 59 | 54.0 | 105.8 | -2.8 | | -43.8 | 53 | 1254 | 18 09 08 |
| 18 10 07 | J1556+3517 | 13 11 59 | 56.1 | 105.0 | -2.8 | | -45.3 | -22 | 1254 | No stop |
| 18 11 37 | --- | 13 13 29 | 56.3 | 105.3 | -2.7 | | -45.2 | 68 | 1265 | 18 10 08 |
| 18 11 52 | J1602+3326 | 13 13 44 | 54.2 | 106.2 | -2.8 | | -43.7 | -7 | 1265 | 18 11 52 |
| 18 12 52 | =1600+335 | 13 14 45 | 54.4 | 106.5 | -2.8 | | -43.6 | 53 | 1273 | 18 11 53 |
| 18 12 52 | J1556+3517 | 13 14 45 | 56.5 | 105.7 | -2.7 | | -45.1 | -22 | 1273 | No stop |
| 18 14 22 | --- | 13 16 15 | 56.7 | 106.1 | -2.7 | | -45.0 | 68 | 1285 | 18 12 53 |
| 18 14 37 | J1602+3326 | 13 16 30 | 54.6 | 107.0 | -2.8 | | -43.5 | -7 | 1285 | 18 14 37 |
| 18 15 37 | =1600+335 | 13 17 30 | 54.8 | 107.2 | -2.8 | | -43.4 | 53 | 1292 | 18 14 38 |
| 18 15 37 | J1556+3517 | 13 17 30 | 56.9 | 106.4 | -2.7 | | -44.9 | -22 | 1292 | No stop |
| 18 17 07 | --- | 13 19 00 | 57.1 | 106.8 | -2.6 | | -44.8 | 68 | 1304 | 18 15 38 |
| 18 17 22 | J1602+3326 | 13 19 15 | 55.0 | 107.7 | -2.7 | | -43.3 | -7 | 1304 | 18 17 22 |
| 18 18 22 | =1600+335 | 13 20 15 | 55.2 | 108.0 | -2.7 | | -43.2 | 53 | 1312 | 18 17 23 |
| 18 19 22 | J1602+3326 | 13 21 16 | 55.3 | 108.2 | -2.7 | | -43.1 | 54 | 1312 | 18 19 22 |
| 18 20 22 | =1600+335 | 13 22 16 | 55.5 | 108.5 | -2.7 | | -43.0 | 60 | 1319 | 18 19 23 |
| 18 20 22 | J1606+3124 | 13 22 16 | 53.4 | 109.8 | -2.7 | | -41.4 | -21 | 1319 | No stop |
| 18 21 52 | =1604+315 | 13 23 46 | 53.6 | 110.2 | -2.7 | | -41.3 | 69 | 1331 | 18 20 23 |
| 18 22 07 | J1602+3326 | 13 24 01 | 55.7 | 109.0 | -2.6 | | -42.9 | -7 | 1331 | 18 22 07 |
| 18 23 07 | =1600+335 | 13 25 01 | 55.8 | 109.2 | -2.6 | | -42.8 | 53 | 1338 | 18 22 08 |
| 18 23 07 | J1606+3124 | 13 25 01 | 53.8 | 110.5 | -2.7 | | -41.2 | -22 | 1338 | No stop |
| 18 24 37 | =1604+315 | 13 26 31 | 54.0 | 110.9 | -2.7 | | -41.1 | 68 | 1350 | 18 23 08 |
| 18 24 52 | J1602+3326 | 13 26 47 | 56.1 | 109.7 | -2.6 | | -42.6 | -7 | 1350 | 18 24 52 |
| 18 25 52 | =1600+335 | 13 27 47 | 56.2 | 110.0 | -2.6 | | -42.5 | 53 | 1358 | 18 24 53 |
| 18 26 35 | J1606+2717 | 13 28 30 | 50.9 | 115.5 | -2.7 | | -37.6 | 9 | 1358 | 18 26 35 |
| 18 28 35 | =1604+274 | 13 30 30 | 51.2 | 116.1 | -2.6 | | -37.4 | 120 | 1373 | 18 26 36 |
| 18 29 35 | J1602+3326 | 13 31 30 | 56.8 | 111.0 | -2.5 | | -42.2 | 26 | 1373 | 18 29 35 |
| 18 30 35 | =1600+335 | 13 32 30 | 56.9 | 111.3 | -2.5 | | -42.1 | 60 | 1381 | 18 29 36 |
| 18 30 35 | J1556+3517 | 13 32 30 | 59.0 | 110.5 | -2.4 | | -43.5 | -22 | 1381 | No stop |
| 18 32 05 | --- | 13 34 00 | 59.2 | 111.0 | -2.4 | | -43.4 | 68 | 1392 | 18 30 36 |

Schedule for TORUN (Code Tr ) Page 11

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 18 32 20 | J1602+3326 | 13 34 15 | 57.1 | 111.8 | -2.5 | | -41.9 | -7 | 1392 | 18 32 20 |
| 18 33 20 | =1600+335 | 13 35 16 | 57.3 | 112.1 | -2.5 | | -41.8 | 53 | 1400 | 18 32 21 |
| 18 33 20 | J1556+3517 | 13 35 16 | 59.4 | 111.3 | -2.4 | | -43.2 | -22 | 1400 | No stop |
| 18 34 50 | --- | 13 36 46 | 59.6 | 111.8 | -2.3 | | -43.1 | 68 | 1412 | 18 33 21 |
| 18 35 05 | J1602+3326 | 13 37 01 | 57.5 | 112.6 | -2.4 | | -41.6 | -7 | 1412 | 18 35 05 |
| 18 36 05 | =1600+335 | 13 38 01 | 57.7 | 112.9 | -2.4 | | -41.5 | 53 | 1419 | 18 35 06 |
| 18 36 05 | J1556+3517 | 13 38 01 | 59.8 | 112.2 | -2.3 | | -42.9 | -22 | 1419 | No stop |
| 18 37 35 | --- | 13 39 31 | 60.0 | 112.6 | -2.3 | | -42.8 | 68 | 1431 | 18 36 06 |
| 18 37 50 | J1602+3326 | 13 39 46 | 57.9 | 113.4 | -2.4 | | -41.3 | -7 | 1431 | 18 37 50 |
| 18 38 50 | =1600+335 | 13 40 47 | 58.0 | 113.7 | -2.4 | | -41.2 | 53 | 1438 | 18 37 51 |
| 18 38 50 | J1556+3517 | 13 40 47 | 60.2 | 113.0 | -2.3 | | -42.6 | -22 | 1438 | No stop |
| 18 40 20 | --- | 13 42 17 | 60.4 | 113.4 | -2.2 | | -42.4 | 68 | 1450 | 18 38 51 |
| 18 40 35 | J1602+3326 | 13 42 32 | 58.3 | 114.2 | -2.3 | | -41.0 | -7 | 1450 | 18 40 35 |
| 18 41 35 | =1600+335 | 13 43 32 | 58.4 | 114.5 | -2.3 | | -40.9 | 53 | 1458 | 18 40 36 |
| 18 41 35 | J1556+3517 | 13 43 32 | 60.6 | 113.8 | -2.2 | | -42.3 | -22 | 1458 | No stop |
| 18 43 05 | --- | 13 45 02 | 60.8 | 114.3 | -2.2 | | -42.1 | 68 | 1469 | 18 41 36 |
| 18 43 20 | J1602+3326 | 13 45 17 | 58.7 | 115.1 | -2.3 | | -40.7 | -7 | 1469 | 18 43 20 |
| 18 44 20 | =1600+335 | 13 46 17 | 58.8 | 115.4 | -2.3 | | -40.5 | 53 | 1477 | 18 43 21 |
| 18 44 20 | J1556+3517 | 13 46 17 | 60.9 | 114.7 | -2.2 | | -41.9 | -22 | 1477 | No stop |
| 18 45 50 | --- | 13 47 48 | 61.2 | 115.1 | -2.2 | | -41.7 | 68 | 1488 | 18 44 21 |
| 18 46 05 | J1602+3326 | 13 48 03 | 59.0 | 115.9 | -2.2 | | -40.3 | -7 | 1488 | 18 46 05 |
| 18 47 05 | =1600+335 | 13 49 03 | 59.2 | 116.2 | -2.2 | | -40.2 | 53 | 1496 | 18 46 06 |
| 18 47 05 | J1556+3517 | 13 49 03 | 61.3 | 115.5 | -2.1 | | -41.6 | -22 | 1496 | No stop |
| 18 48 35 | --- | 13 50 33 | 61.5 | 116.0 | -2.1 | | -41.4 | 68 | 1508 | 18 47 06 |
| 18 48 50 | J1602+3326 | 13 50 48 | 59.4 | 116.8 | -2.2 | | -40.0 | -7 | 1508 | 18 48 50 |
| 18 49 50 | =1600+335 | 13 51 48 | 59.5 | 117.1 | -2.2 | | -39.8 | 53 | 1515 | 18 48 51 |
| 18 49 50 | J1556+3517 | 13 51 48 | 61.7 | 116.4 | -2.1 | | -41.2 | -22 | 1515 | No stop |
| 18 51 20 | --- | 13 53 19 | 61.9 | 116.9 | -2.1 | | -41.0 | 68 | 1527 | 18 49 51 |
| 18 51 35 | J1602+3326 | 13 53 34 | 59.8 | 117.7 | -2.2 | | -39.6 | -7 | 1527 | 18 51 35 |
| 18 52 35 | =1600+335 | 13 54 34 | 59.9 | 118.0 | -2.1 | | -39.4 | 53 | 1535 | 18 51 36 |

Schedule for TORUN (Code Tr ) Page 12

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 18 52 35 | J1556+3517 | 13 54 34 | 62.1 | 117.3 | -2.0 | | -40.8 | -22 | 1535 | No stop |
| 18 54 05 | --- | 13 56 04 | 62.3 | 117.8 | -2.0 | | -40.6 | 68 | 1546 | 18 52 36 |
| 18 54 20 | J1602+3326 | 13 56 19 | 60.1 | 118.5 | -2.1 | | -39.2 | -7 | 1546 | 18 54 20 |
| 18 55 20 | =1600+335 | 13 57 19 | 60.3 | 118.9 | -2.1 | | -39.0 | 53 | 1554 | 18 54 21 |
| 18 55 20 | J1556+3517 | 13 57 19 | 62.4 | 118.2 | -2.0 | | -40.4 | -22 | 1554 | No stop |
| 18 56 50 | --- | 13 58 50 | 62.6 | 118.8 | -2.0 | | -40.1 | 68 | 1565 | 18 55 21 |
| 18 57 05 | J1602+3326 | 13 59 05 | 60.5 | 119.4 | -2.1 | | -38.8 | -7 | 1565 | 18 57 05 |
| 18 58 05 | =1600+335 | 14 00 05 | 60.6 | 119.8 | -2.0 | | -38.6 | 53 | 1573 | 18 57 06 |
| 18 58 05 | J1556+3517 | 14 00 05 | 62.8 | 119.2 | -2.0 | | -39.9 | -22 | 1573 | No stop |
| 18 59 35 | --- | 14 01 35 | 63.0 | 119.7 | -1.9 | | -39.7 | 68 | 1585 | 18 58 06 |
| 18 59 50 | J1602+3326 | 14 01 50 | 60.9 | 120.4 | -2.0 | | -38.4 | -7 | 1585 | 18 59 50 |
| 19 00 50 | =1600+335 | 14 02 50 | 61.0 | 120.7 | -2.0 | | -38.2 | 53 | 1592 | 18 59 51 |
| 19 00 50 | J1556+3517 | 14 02 50 | 63.2 | 120.1 | -1.9 | | -39.5 | -22 | 1592 | No stop |
| 19 02 20 | --- | 14 04 20 | 63.3 | 120.7 | -1.9 | | -39.2 | 68 | 1604 | 19 00 51 |
| 19 02 35 | J1602+3326 | 14 04 35 | 61.2 | 121.3 | -2.0 | | -37.9 | -7 | 1604 | 19 02 35 |
| 19 03 35 | =1600+335 | 14 05 36 | 61.3 | 121.6 | -2.0 | | -37.8 | 53 | 1612 | 19 02 36 |
| 19 03 35 | J1556+3517 | 14 05 36 | 63.5 | 121.1 | -1.9 | | -39.0 | -22 | 1612 | No stop |
| 19 05 05 | --- | 14 07 06 | 63.7 | 121.6 | -1.8 | | -38.8 | 68 | 1623 | 19 03 36 |
| 19 05 20 | J1602+3326 | 14 07 21 | 61.6 | 122.3 | -1.9 | | -37.5 | -7 | 1623 | 19 05 20 |
| 19 06 20 | =1600+335 | 14 08 21 | 61.7 | 122.6 | -1.9 | | -37.3 | 53 | 1631 | 19 05 21 |
| 19 06 20 | J1556+3517 | 14 08 21 | 63.9 | 122.1 | -1.8 | | -38.5 | -22 | 1631 | No stop |
| 19 07 50 | --- | 14 09 51 | 64.1 | 122.6 | -1.8 | | -38.3 | 68 | 1642 | 19 06 21 |
| 19 08 05 | J1602+3326 | 14 10 06 | 61.9 | 123.2 | -1.9 | | -37.0 | -7 | 1642 | 19 08 05 |
| 19 09 05 | =1600+335 | 14 11 07 | 62.0 | 123.6 | -1.9 | | -36.8 | 53 | 1650 | 19 08 06 |
| 19 09 05 | J1556+3517 | 14 11 07 | 64.2 | 123.1 | -1.8 | | -38.0 | -22 | 1650 | No stop |
| 19 10 35 | --- | 14 12 37 | 64.4 | 123.7 | -1.7 | | -37.7 | 68 | 1662 | 19 09 06 |
| 19 10 50 | J1602+3326 | 14 12 52 | 62.3 | 124.2 | -1.8 | | -36.5 | -7 | 1662 | 19 10 50 |
| 19 11 50 | =1600+335 | 14 13 52 | 62.4 | 124.6 | -1.8 | | -36.3 | 53 | 1669 | 19 10 51 |
| 19 12 34 | J1606+2717 | 14 14 36 | 56.8 | 129.9 | -1.9 | | -31.2 | 9 | 1669 | 19 12 34 |
| 19 14 34 | =1604+274 | 14 16 37 | 57.0 | 130.6 | -1.8 | | -30.9 | 120 | 1685 | 19 12 35 |

Schedule for TORUN (Code Tr ) Page 13

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 19 15 34 | J1602+3326 | 14 17 37 | 62.8 | 125.9 | -1.8 | | -35.6 | 24 | 1685 | 19 15 34 |
| 19 16 34 | =1600+335 | 14 18 37 | 63.0 | 126.3 | -1.7 | | -35.4 | 60 | 1692 | 19 15 35 |
| 19 16 34 | J1556+3517 | 14 18 37 | 65.1 | 126.0 | -1.6 | | -36.5 | -22 | 1692 | No stop |
| 19 18 04 | --- | 14 20 07 | 65.3 | 126.5 | -1.6 | | -36.2 | 68 | 1704 | 19 16 35 |
| 19 18 19 | J1602+3326 | 14 20 22 | 63.2 | 127.0 | -1.7 | | -35.1 | -7 | 1704 | 19 18 19 |
| 19 19 19 | =1600+335 | 14 21 23 | 63.3 | 127.4 | -1.7 | | -34.9 | 53 | 1712 | 19 18 20 |
| 19 19 19 | J1556+3517 | 14 21 23 | 65.5 | 127.0 | -1.6 | | -35.9 | -22 | 1712 | No stop |
| 19 20 49 | --- | 14 22 53 | 65.7 | 127.6 | -1.6 | | -35.6 | 68 | 1723 | 19 19 20 |
| 19 21 04 | J1602+3326 | 14 23 08 | 63.5 | 128.0 | -1.7 | | -34.5 | -7 | 1723 | 19 21 04 |
| 19 22 04 | =1600+335 | 14 24 08 | 63.6 | 128.4 | -1.6 | | -34.3 | 53 | 1731 | 19 21 05 |
| 19 22 04 | J1556+3517 | 14 24 08 | 65.8 | 128.2 | -1.6 | | -35.3 | -22 | 1731 | No stop |
| 19 23 34 | --- | 14 25 38 | 66.0 | 128.8 | -1.5 | | -35.0 | 68 | 1742 | 19 22 05 |
| 19 23 49 | J1602+3326 | 14 25 53 | 63.8 | 129.1 | -1.6 | | -33.9 | -7 | 1742 | 19 23 49 |
| 19 24 49 | =1600+335 | 14 26 53 | 63.9 | 129.5 | -1.6 | | -33.7 | 53 | 1750 | 19 23 50 |
| 19 24 49 | J1556+3517 | 14 26 53 | 66.1 | 129.3 | -1.5 | | -34.7 | -22 | 1750 | No stop |
| 19 26 19 | --- | 14 28 24 | 66.3 | 129.9 | -1.5 | | -34.3 | 68 | 1762 | 19 24 50 |
| 19 26 34 | J1602+3326 | 14 28 39 | 64.2 | 130.2 | -1.6 | | -33.3 | -7 | 1762 | 19 26 34 |
| 19 27 34 | =1600+335 | 14 29 39 | 64.3 | 130.6 | -1.6 | | -33.1 | 53 | 1769 | 19 26 35 |
| 19 27 34 | J1556+3517 | 14 29 39 | 66.4 | 130.4 | -1.5 | | -34.0 | -22 | 1769 | No stop |
| 19 29 04 | --- | 14 31 09 | 66.6 | 131.1 | -1.4 | | -33.7 | 68 | 1781 | 19 27 35 |
| 19 29 19 | J1602+3326 | 14 31 24 | 64.5 | 131.3 | -1.5 | | -32.7 | -7 | 1781 | 19 29 19 |
| 19 30 19 | =1600+335 | 14 32 24 | 64.6 | 131.7 | -1.5 | | -32.5 | 53 | 1788 | 19 29 20 |
| 19 30 19 | J1556+3517 | 14 32 24 | 66.8 | 131.6 | -1.4 | | -33.4 | -22 | 1788 | No stop |
| 19 31 49 | --- | 14 33 55 | 66.9 | 132.3 | -1.4 | | -33.0 | 68 | 1800 | 19 30 20 |
| 19 32 04 | J1602+3326 | 14 34 10 | 64.8 | 132.4 | -1.5 | | -32.1 | -7 | 1800 | 19 32 04 |
| 19 33 04 | =1600+335 | 14 35 10 | 64.9 | 132.9 | -1.5 | | -31.8 | 53 | 1808 | 19 32 05 |
| 19 33 04 | J1556+3517 | 14 35 10 | 67.1 | 132.8 | -1.4 | | -32.6 | -22 | 1808 | No stop |
| 19 34 34 | --- | 14 36 40 | 67.2 | 133.5 | -1.3 | | -32.2 | 68 | 1819 | 19 33 05 |
| 19 34 49 | J1602+3326 | 14 36 55 | 65.1 | 133.6 | -1.4 | | -31.4 | -7 | 1819 | 19 34 49 |
| 19 35 49 | =1600+335 | 14 37 55 | 65.2 | 134.0 | -1.4 | | -31.1 | 53 | 1827 | 19 34 50 |

Schedule for TORUN (Code Tr ) Page 14

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 19 35 49 | J1556+3517 | 14 37 55 | 67.4 | 134.1 | -1.3 | | -31.9 | -22 | 1827 | No stop |
| 19 37 19 | --- | 14 39 25 | 67.5 | 134.7 | -1.3 | | -31.5 | 68 | 1838 | 19 35 50 |
| 19 37 34 | J1602+3326 | 14 39 41 | 65.4 | 134.8 | -1.4 | | -30.7 | -7 | 1838 | 19 37 34 |
| 19 38 34 | =1600+335 | 14 40 41 | 65.5 | 135.2 | -1.4 | | -30.5 | 53 | 1846 | 19 37 35 |
| 19 38 34 | J1556+3517 | 14 40 41 | 67.7 | 135.3 | -1.3 | | -31.1 | -22 | 1846 | No stop |
| 19 40 04 | --- | 14 42 11 | 67.8 | 136.0 | -1.2 | | -30.7 | 68 | 1858 | 19 38 35 |
| 19 40 19 | J1602+3326 | 14 42 26 | 65.7 | 136.0 | -1.3 | | -30.0 | -7 | 1858 | 19 40 19 |
| 19 41 19 | =1600+335 | 14 43 26 | 65.8 | 136.4 | -1.3 | | -29.7 | 53 | 1865 | 19 40 20 |
| 19 41 19 | J1556+3517 | 14 43 26 | 67.9 | 136.6 | -1.2 | | -30.4 | -22 | 1865 | No stop |
| 19 42 49 | --- | 14 44 56 | 68.1 | 137.3 | -1.2 | | -29.9 | 68 | 1877 | 19 41 20 |
| 19 43 04 | J1602+3326 | 14 45 11 | 65.9 | 137.2 | -1.3 | | -29.3 | -7 | 1877 | 19 43 04 |
| 19 44 04 | =1600+335 | 14 46 12 | 66.0 | 137.6 | -1.3 | | -29.0 | 53 | 1885 | 19 43 05 |
| 19 44 04 | J1556+3517 | 14 46 12 | 68.2 | 137.9 | -1.2 | | -29.5 | -22 | 1885 | No stop |
| 19 45 34 | --- | 14 47 42 | 68.4 | 138.6 | -1.2 | | -29.1 | 68 | 1896 | 19 44 05 |
| 19 45 49 | J1602+3326 | 14 47 57 | 66.2 | 138.4 | -1.2 | | -28.5 | -7 | 1896 | 19 45 49 |
| 19 46 49 | =1600+335 | 14 48 57 | 66.3 | 138.9 | -1.2 | | -28.2 | 53 | 1904 | 19 45 50 |
| 19 46 49 | J1556+3517 | 14 48 57 | 68.5 | 139.2 | -1.1 | | -28.7 | -22 | 1904 | No stop |
| 19 48 19 | --- | 14 50 27 | 68.6 | 140.0 | -1.1 | | -28.2 | 68 | 1915 | 19 46 50 |
| 19 48 34 | J1602+3326 | 14 50 42 | 66.5 | 139.7 | -1.2 | | -27.7 | -7 | 1915 | 19 48 34 |
| 19 49 34 | =1600+335 | 14 51 43 | 66.6 | 140.2 | -1.2 | | -27.4 | 53 | 1923 | 19 48 35 |
| 19 49 34 | J1556+3517 | 14 51 43 | 68.8 | 140.6 | -1.1 | | -27.8 | -22 | 1923 | No stop |
| 19 51 04 | --- | 14 53 13 | 68.9 | 141.3 | -1.1 | | -27.3 | 68 | 1935 | 19 49 35 |
| 19 51 19 | J1602+3326 | 14 53 28 | 66.8 | 141.0 | -1.2 | | -26.9 | -7 | 1935 | 19 51 19 |
| 19 52 19 | =1600+335 | 14 54 28 | 66.9 | 141.5 | -1.1 | | -26.6 | 53 | 1942 | 19 51 20 |
| 19 52 19 | J1556+3517 | 14 54 28 | 69.0 | 142.0 | -1.0 | | -26.9 | -22 | 1942 | No stop |
| 19 53 49 | --- | 14 55 58 | 69.2 | 142.7 | -1.0 | | -26.4 | 68 | 1954 | 19 52 20 |
| 19 54 04 | J1602+3326 | 14 56 13 | 67.0 | 142.3 | -1.1 | | -26.1 | -7 | 1954 | 19 54 04 |
| 19 55 04 | =1600+335 | 14 57 13 | 67.1 | 142.8 | -1.1 | | -25.8 | 53 | 1962 | 19 54 05 |
| 19 55 04 | J1556+3517 | 14 57 13 | 69.3 | 143.4 | -1.0 | | -26.0 | -22 | 1962 | No stop |
| 19 56 34 | --- | 14 58 44 | 69.4 | 144.2 | -1.0 | | -25.5 | 68 | 1973 | 19 55 05 |

Schedule for TORUN (Code Tr ) Page 15

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 19 56 49 | J1602+3326 | 14 58 59 | 67.3 | 143.6 | -1.1 | | -25.2 | -7 | 1973 | 19 56 49 |
| 19 57 49 | =1600+335 | 14 59 59 | 67.4 | 144.1 | -1.0 | | -24.9 | 53 | 1981 | 19 56 50 |
| 19 58 34 | J1606+2717 | 15 00 44 | 61.3 | 147.8 | -1.1 | | -21.1 | 8 | 1981 | 19 58 34 |
| 20 00 34 | =1604+274 | 15 02 44 | 61.5 | 148.7 | -1.1 | | -20.6 | 120 | 1996 | 19 58 35 |
| 20 01 34 | J1602+3326 | 15 03 44 | 67.7 | 146.0 | -1.0 | | -23.7 | 23 | 1996 | 20 01 34 |
| 20 02 34 | =1600+335 | 15 04 44 | 67.8 | 146.5 | -1.0 | | -23.4 | 60 | 2004 | 20 01 35 |
| 20 02 34 | J1556+3517 | 15 04 44 | 69.9 | 147.4 | -0.9 | | -23.3 | -22 | 2004 | No stop |
| 20 04 04 | --- | 15 06 15 | 70.0 | 148.2 | -0.8 | | -22.8 | 68 | 2015 | 20 02 35 |
| 20 04 19 | J1602+3326 | 15 06 30 | 67.9 | 147.4 | -0.9 | | -22.8 | -7 | 2015 | 20 04 19 |
| 20 05 19 | =1600+335 | 15 07 30 | 68.0 | 147.9 | -0.9 | | -22.5 | 53 | 2023 | 20 04 20 |
| 20 05 19 | J1556+3517 | 15 07 30 | 70.1 | 148.9 | -0.8 | | -22.3 | -22 | 2023 | No stop |
| 20 06 49 | --- | 15 09 00 | 70.2 | 149.8 | -0.8 | | -21.7 | 68 | 2035 | 20 05 20 |
| 20 07 04 | J1602+3326 | 15 09 15 | 68.1 | 148.8 | -0.9 | | -21.9 | -7 | 2035 | 20 07 04 |
| 20 08 04 | =1600+335 | 15 10 15 | 68.2 | 149.3 | -0.9 | | -21.5 | 53 | 2042 | 20 07 05 |
| 20 08 04 | J1556+3517 | 15 10 15 | 70.3 | 150.5 | -0.8 | | -21.3 | -22 | 2042 | No stop |
| 20 09 34 | --- | 15 11 45 | 70.5 | 151.3 | -0.8 | | -20.7 | 68 | 2054 | 20 08 05 |
| 20 09 49 | J1602+3326 | 15 12 00 | 68.3 | 150.3 | -0.8 | | -20.9 | -7 | 2054 | 20 09 49 |
| 20 10 49 | =1600+335 | 15 13 01 | 68.4 | 150.8 | -0.8 | | -20.6 | 53 | 2062 | 20 09 50 |
| 20 10 49 | J1556+3517 | 15 13 01 | 70.5 | 152.0 | -0.7 | | -20.2 | -22 | 2062 | No stop |
| 20 12 19 | --- | 15 14 31 | 70.6 | 152.9 | -0.7 | | -19.6 | 68 | 2073 | 20 10 50 |
| 20 12 34 | J1602+3326 | 15 14 46 | 68.5 | 151.7 | -0.8 | | -19.9 | -7 | 2073 | 20 12 34 |
| 20 13 34 | =1600+335 | 15 15 46 | 68.6 | 152.3 | -0.8 | | -19.6 | 53 | 2081 | 20 12 35 |
| 20 13 34 | J1556+3517 | 15 15 46 | 70.7 | 153.6 | -0.7 | | -19.1 | -22 | 2081 | No stop |
| 20 15 04 | --- | 15 17 16 | 70.8 | 154.5 | -0.7 | | -18.4 | 68 | 2092 | 20 13 35 |
| 20 15 19 | J1602+3326 | 15 17 31 | 68.7 | 153.2 | -0.8 | | -18.9 | -7 | 2092 | 20 15 19 |
| 20 16 19 | =1600+335 | 15 18 32 | 68.8 | 153.8 | -0.7 | | -18.5 | 53 | 2100 | 20 15 20 |
| 20 16 19 | J1556+3517 | 15 18 32 | 70.9 | 155.3 | -0.6 | | -17.9 | -22 | 2100 | No stop |
| 20 17 49 | --- | 15 20 02 | 71.0 | 156.2 | -0.6 | | -17.3 | 68 | 2112 | 20 16 20 |
| 20 18 04 | J1602+3326 | 15 20 17 | 68.9 | 154.7 | -0.7 | | -17.9 | -7 | 2112 | 20 18 04 |
| 20 19 04 | =1600+335 | 15 21 17 | 69.0 | 155.3 | -0.7 | | -17.5 | 53 | 2119 | 20 18 05 |

Schedule for TORUN (Code Tr ) Page 16

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 20 19 04 | J1556+3517 | 15 21 17 | 71.1 | 156.9 | -0.6 | | -16.8 | -22 | 2119 | No stop |
| 20 20 34 | --- | 15 22 47 | 71.2 | 157.8 | -0.6 | | -16.1 | 68 | 2131 | 20 19 05 |
| 20 20 49 | J1602+3326 | 15 23 02 | 69.1 | 156.3 | -0.7 | | -16.8 | -7 | 2131 | 20 20 49 |
| 20 21 49 | =1600+335 | 15 24 02 | 69.1 | 156.8 | -0.6 | | -16.4 | 53 | 2138 | 20 20 50 |
| 20 21 49 | J1556+3517 | 15 24 02 | 71.2 | 158.6 | -0.6 | | -15.6 | -22 | 2138 | No stop |
| 20 23 19 | --- | 15 25 33 | 71.3 | 159.5 | -0.5 | | -14.9 | 68 | 2150 | 20 21 50 |
| 20 23 34 | J1602+3326 | 15 25 48 | 69.2 | 157.8 | -0.6 | | -15.8 | -7 | 2150 | 20 23 34 |
| 20 24 34 | =1600+335 | 15 26 48 | 69.3 | 158.4 | -0.6 | | -15.4 | 53 | 2158 | 20 23 35 |
| 20 24 34 | J1556+3517 | 15 26 48 | 71.4 | 160.3 | -0.5 | | -14.4 | -22 | 2158 | No stop |
| 20 26 04 | --- | 15 28 18 | 71.5 | 161.2 | -0.5 | | -13.7 | 68 | 2169 | 20 24 35 |
| 20 26 19 | J1602+3326 | 15 28 33 | 69.4 | 159.4 | -0.6 | | -14.7 | -7 | 2169 | 20 26 19 |
| 20 27 19 | =1600+335 | 15 29 33 | 69.4 | 160.0 | -0.6 | | -14.3 | 53 | 2177 | 20 26 20 |
| 20 27 19 | J1556+3517 | 15 29 33 | 71.5 | 162.0 | -0.5 | | -13.1 | -22 | 2177 | No stop |
| 20 28 49 | --- | 15 31 04 | 71.6 | 162.9 | -0.4 | | -12.5 | 68 | 2188 | 20 27 20 |
| 20 29 04 | J1602+3326 | 15 31 19 | 69.5 | 161.0 | -0.5 | | -13.6 | -7 | 2188 | 20 29 04 |
| 20 30 04 | =1600+335 | 15 32 19 | 69.6 | 161.6 | -0.5 | | -13.2 | 53 | 2196 | 20 29 05 |
| 20 30 04 | J1556+3517 | 15 32 19 | 71.6 | 163.7 | -0.4 | | -11.9 | -22 | 2196 | No stop |
| 20 31 34 | --- | 15 33 49 | 71.7 | 164.7 | -0.4 | | -11.2 | 68 | 2208 | 20 30 05 |
| 20 31 49 | J1602+3326 | 15 34 04 | 69.7 | 162.6 | -0.5 | | -12.4 | -6 | 2208 | 20 31 49 |
| 20 32 49 | =1600+335 | 15 35 04 | 69.7 | 163.2 | -0.5 | | -12.0 | 54 | 2215 | 20 31 50 |
| 20 32 49 | J1556+3517 | 15 35 04 | 71.7 | 165.5 | -0.4 | | -10.6 | -22 | 2215 | No stop |
| 20 34 19 | --- | 15 36 34 | 71.8 | 166.5 | -0.3 | | -9.9 | 68 | 2227 | 20 32 50 |
| 20 34 34 | J1602+3326 | 15 36 50 | 69.8 | 164.2 | -0.4 | | -11.3 | -6 | 2227 | 20 34 34 |
| 20 35 34 | =1600+335 | 15 37 50 | 69.8 | 164.8 | -0.4 | | -10.9 | 54 | 2235 | 20 34 35 |
| 20 35 34 | J1556+3517 | 15 37 50 | 71.8 | 167.3 | -0.3 | | -9.3 | -21 | 2235 | No stop |
| 20 37 04 | --- | 15 39 20 | 71.9 | 168.2 | -0.3 | | -8.6 | 69 | 2246 | 20 35 35 |
| 20 37 19 | J1602+3326 | 15 39 35 | 69.9 | 165.8 | -0.4 | | -10.1 | -6 | 2246 | 20 37 19 |
| 20 38 19 | =1600+335 | 15 40 35 | 69.9 | 166.4 | -0.4 | | -9.7 | 54 | 2254 | 20 37 20 |
| 20 38 19 | J1556+3517 | 15 40 35 | 71.9 | 169.1 | -0.3 | | -8.0 | -21 | 2254 | No stop |
| 20 39 49 | --- | 15 42 05 | 72.0 | 170.0 | -0.3 | | -7.3 | 69 | 2265 | 20 38 20 |

Schedule for TORUN (Code Tr ) Page 17

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 20 40 04 | J1602+3326 | 15 42 20 | 70.0 | 167.5 | -0.3 | | -9.0 | -6 | 2265 | 20 40 04 |
| 20 41 04 | =1600+335 | 15 43 21 | 70.0 | 168.1 | -0.3 | | -8.5 | 54 | 2273 | 20 40 05 |
| 20 41 04 | J1556+3517 | 15 43 21 | 72.0 | 170.9 | -0.2 | | -6.7 | -21 | 2273 | No stop |
| 20 42 34 | --- | 15 44 51 | 72.0 | 171.8 | -0.2 | | -6.0 | 69 | 2285 | 20 41 05 |
| 20 42 49 | J1602+3326 | 15 45 06 | 70.1 | 169.2 | -0.3 | | -7.8 | -6 | 2285 | 20 42 49 |
| 20 43 49 | =1600+335 | 15 46 06 | 70.1 | 169.8 | -0.3 | | -7.3 | 54 | 2292 | 20 42 50 |
| 20 45 28 | 3C345 | 15 47 45 | 73.7 | 138.9 | -0.9 | | -30.9 | 22 | 2292 | 20 45 28 |
| 20 49 28 | --- | 15 51 46 | 74.0 | 141.3 | -0.9 | | -29.3 | 240 | 2323 | 20 45 29 |
| 20 49 43 | 3C345 | 15 52 01 | 74.1 | 141.4 | -0.9 | | -29.1 | 8 | 2323 | 20 49 43 |
| 20 53 28 | --- | 15 55 47 | 74.4 | 143.8 | -0.8 | | -27.5 | 225 | 2352 | 20 49 44 |
| 20 55 23 | J1606+2717 | 15 57 43 | 64.1 | 175.0 | -0.2 | | -3.4 | 39 | 2352 | 20 55 23 |
| 20 57 23 | =1604+274 | 15 59 43 | 64.1 | 176.0 | -0.1 | | -2.7 | 120 | 2367 | 20 55 24 |
| 20 58 23 | J1602+3326 | 16 00 43 | 70.3 | 178.8 | -0.0 | | -0.9 | 23 | 2367 | 20 58 23 |
| 20 59 23 | =1600+335 | 16 01 43 | 70.3 | 179.4 | -0.0 | | -0.4 | 60 | 2375 | 20 58 24 |
| 20 59 23 | J1556+3517 | 16 01 43 | 72.1 | 183.1 | 0.1 | | 2.2 | -23 | 2375 | No stop |
| 21 00 53 | --- | 16 03 14 | 72.1 | 184.1 | 0.1 | | 3.0 | 67 | 2387 | 20 59 24 |
| 21 01 08 | J1602+3326 | 16 03 29 | 70.3 | 180.5 | 0.0 | | 0.3 | -7 | 2387 | 21 01 08 |
| 21 02 08 | =1600+335 | 16 04 29 | 70.3 | 181.1 | 0.0 | | 0.8 | 53 | 2394 | 21 01 09 |
| 21 02 08 | J1556+3517 | 16 04 29 | 72.1 | 184.9 | 0.1 | | 3.6 | -23 | 2394 | No stop |
| 21 03 38 | --- | 16 05 59 | 72.1 | 185.9 | 0.1 | | 4.3 | 67 | 2406 | 21 02 09 |
| 21 03 53 | J1602+3326 | 16 06 14 | 70.3 | 182.2 | 0.1 | | 1.6 | -7 | 2406 | 21 03 53 |
| 21 04 53 | =1600+335 | 16 07 14 | 70.3 | 182.8 | 0.1 | | 2.0 | 53 | 2413 | 21 03 54 |
| 21 04 53 | J1556+3517 | 16 07 14 | 72.1 | 186.7 | 0.2 | | 4.9 | -23 | 2413 | No stop |
| 21 06 23 | --- | 16 08 45 | 72.0 | 187.7 | 0.2 | | 5.7 | 67 | 2425 | 21 04 54 |
| 21 06 38 | J1602+3326 | 16 09 00 | 70.3 | 183.9 | 0.1 | | 2.8 | -7 | 2425 | 21 06 38 |
| 21 07 38 | =1600+335 | 16 10 00 | 70.3 | 184.5 | 0.1 | | 3.2 | 53 | 2433 | 21 06 39 |
| 21 07 38 | J1556+3517 | 16 10 00 | 72.0 | 188.5 | 0.2 | | 6.3 | -23 | 2433 | No stop |
| 21 09 08 | --- | 16 11 30 | 72.0 | 189.5 | 0.2 | | 7.0 | 67 | 2444 | 21 07 39 |
| 21 09 23 | J1602+3326 | 16 11 45 | 70.2 | 185.6 | 0.2 | | 4.0 | -8 | 2444 | 21 09 23 |
| 21 10 23 | =1600+335 | 16 12 45 | 70.2 | 186.2 | 0.2 | | 4.5 | 52 | 2452 | 21 09 24 |

Schedule for TORUN (Code Tr ) Page 18

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 21 10 23 | J1556+3517 | 16 12 45 | 72.0 | 190.3 | 0.3 | | 7.6 | -24 | 2452 | No stop |
| 21 11 53 | --- | 16 14 15 | 71.9 | 191.3 | 0.3 | | 8.3 | 66 | 2463 | 21 10 24 |
| 21 12 08 | J1602+3326 | 16 14 30 | 70.2 | 187.3 | 0.2 | | 5.2 | -8 | 2463 | 21 12 08 |
| 21 13 08 | =1600+335 | 16 15 31 | 70.2 | 187.9 | 0.2 | | 5.7 | 52 | 2471 | 21 12 09 |
| 21 13 08 | J1556+3517 | 16 15 31 | 71.9 | 192.1 | 0.3 | | 8.9 | -24 | 2471 | No stop |
| 21 14 38 | --- | 16 17 01 | 71.8 | 193.1 | 0.3 | | 9.6 | 66 | 2483 | 21 13 09 |
| 21 14 53 | J1602+3326 | 16 17 16 | 70.1 | 189.0 | 0.2 | | 6.4 | -8 | 2483 | 21 14 53 |
| 21 15 53 | =1600+335 | 16 18 16 | 70.1 | 189.6 | 0.3 | | 6.9 | 52 | 2490 | 21 14 54 |
| 21 15 53 | J1556+3517 | 16 18 16 | 71.8 | 193.9 | 0.4 | | 10.2 | -24 | 2490 | No stop |
| 21 17 23 | --- | 16 19 46 | 71.7 | 194.9 | 0.4 | | 10.9 | 66 | 2502 | 21 15 54 |
| 21 17 38 | J1602+3326 | 16 20 01 | 70.1 | 190.7 | 0.3 | | 7.6 | -8 | 2502 | 21 17 38 |
| 21 18 38 | =1600+335 | 16 21 02 | 70.0 | 191.3 | 0.3 | | 8.1 | 52 | 2510 | 21 17 39 |
| 21 18 38 | J1556+3517 | 16 21 02 | 71.7 | 195.7 | 0.4 | | 11.5 | -24 | 2510 | No stop |
| 21 20 08 | --- | 16 22 32 | 71.6 | 196.6 | 0.4 | | 12.2 | 66 | 2521 | 21 18 39 |
| 21 20 23 | J1602+3326 | 16 22 47 | 70.0 | 192.3 | 0.3 | | 8.8 | -8 | 2521 | 21 20 23 |
| 21 21 23 | =1600+335 | 16 23 47 | 70.0 | 192.9 | 0.4 | | 9.3 | 52 | 2529 | 21 20 24 |
| 21 21 23 | J1556+3517 | 16 23 47 | 71.6 | 197.4 | 0.4 | | 12.7 | -24 | 2529 | No stop |
| 21 22 53 | --- | 16 25 17 | 71.5 | 198.4 | 0.5 | | 13.4 | 66 | 2540 | 21 21 24 |
| 21 23 08 | J1602+3326 | 16 25 32 | 69.9 | 194.0 | 0.4 | | 10.0 | -9 | 2540 | 21 23 08 |
| 21 24 08 | =1600+335 | 16 26 32 | 69.9 | 194.6 | 0.4 | | 10.4 | 51 | 2548 | 21 23 09 |
| 21 24 08 | J1556+3517 | 16 26 32 | 71.4 | 199.1 | 0.5 | | 14.0 | -25 | 2548 | No stop |
| 21 25 38 | --- | 16 28 03 | 71.4 | 200.1 | 0.5 | | 14.6 | 65 | 2560 | 21 24 09 |
| 21 25 53 | J1602+3326 | 16 28 18 | 69.8 | 195.6 | 0.4 | | 11.2 | -9 | 2560 | 21 25 53 |
| 21 26 53 | =1600+335 | 16 29 18 | 69.8 | 196.2 | 0.4 | | 11.6 | 51 | 2567 | 21 25 54 |
| 21 26 53 | J1556+3517 | 16 29 18 | 71.3 | 200.9 | 0.5 | | 15.2 | -25 | 2567 | No stop |
| 21 28 23 | --- | 16 30 48 | 71.2 | 201.8 | 0.6 | | 15.8 | 65 | 2579 | 21 26 54 |
| 21 28 38 | J1602+3326 | 16 31 03 | 69.7 | 197.2 | 0.5 | | 12.3 | -9 | 2579 | 21 28 38 |
| 21 29 38 | =1600+335 | 16 32 03 | 69.6 | 197.8 | 0.5 | | 12.7 | 51 | 2587 | 21 28 39 |
| 21 29 38 | J1556+3517 | 16 32 03 | 71.1 | 202.5 | 0.6 | | 16.4 | -25 | 2587 | No stop |
| 21 31 08 | --- | 16 33 34 | 71.0 | 203.4 | 0.6 | | 17.0 | 65 | 2598 | 21 29 39 |

Schedule for TORUN (Code Tr ) Page 19

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 21 31 23 | J1602+3326 | 16 33 49 | 69.5 | 198.9 | 0.5 | | 13.4 | -9 | 2598 | 21 31 23 |
| 21 32 23 | =1600+335 | 16 34 49 | 69.5 | 199.4 | 0.5 | | 13.9 | 51 | 2606 | 21 31 24 |
| 21 33 23 | J1602+3326 | 16 35 49 | 69.4 | 200.0 | 0.6 | | 14.3 | 53 | 2606 | 21 33 23 |
| 21 34 23 | =1600+335 | 16 36 49 | 69.4 | 200.6 | 0.6 | | 14.7 | 60 | 2613 | 21 33 24 |
| 21 34 23 | J1606+3124 | 16 36 49 | 67.6 | 197.1 | 0.5 | | 11.9 | -21 | 2613 | No stop |
| 21 35 53 | =1604+315 | 16 38 19 | 67.5 | 197.9 | 0.5 | | 12.5 | 69 | 2625 | 21 34 24 |
| 21 36 08 | J1602+3326 | 16 38 34 | 69.3 | 201.6 | 0.6 | | 15.4 | -7 | 2625 | 21 36 08 |
| 21 37 08 | =1600+335 | 16 39 35 | 69.2 | 202.2 | 0.6 | | 15.7 | 53 | 2633 | 21 36 09 |
| 21 37 08 | J1606+3124 | 16 39 35 | 67.5 | 198.6 | 0.5 | | 12.9 | -22 | 2633 | No stop |
| 21 38 38 | =1604+315 | 16 41 05 | 67.4 | 199.4 | 0.6 | | 13.5 | 68 | 2644 | 21 37 09 |
| 21 38 53 | J1602+3326 | 16 41 20 | 69.1 | 203.2 | 0.6 | | 16.4 | -7 | 2644 | 21 38 53 |
| 21 39 53 | =1600+335 | 16 42 20 | 69.1 | 203.7 | 0.7 | | 16.8 | 53 | 2652 | 21 38 54 |
| 21 40 40 | J1606+2717 | 16 43 07 | 63.3 | 197.8 | 0.6 | | 11.9 | 11 | 2652 | 21 40 40 |
| 21 42 40 | =1604+274 | 16 45 07 | 63.2 | 198.8 | 0.6 | | 12.6 | 120 | 2667 | 21 40 41 |
| 21 43 40 | J1602+3326 | 16 46 07 | 68.8 | 205.8 | 0.7 | | 18.3 | 25 | 2667 | 21 43 40 |
| 21 44 40 | =1600+335 | 16 47 07 | 68.8 | 206.4 | 0.7 | | 18.6 | 60 | 2675 | 21 43 41 |
| 21 44 40 | J1556+3517 | 16 47 07 | 70.1 | 211.3 | 0.8 | | 22.4 | -25 | 2675 | No stop |
| 21 46 10 | --- | 16 48 37 | 70.0 | 212.1 | 0.9 | | 23.0 | 65 | 2687 | 21 44 41 |
| 21 46 25 | J1602+3326 | 16 48 52 | 68.7 | 207.3 | 0.8 | | 19.3 | -9 | 2687 | 21 46 25 |
| 21 47 25 | =1600+335 | 16 49 53 | 68.6 | 207.9 | 0.8 | | 19.6 | 51 | 2694 | 21 46 26 |
| 21 47 25 | J1556+3517 | 16 49 53 | 69.9 | 212.8 | 0.9 | | 23.5 | -25 | 2694 | No stop |
| 21 48 55 | --- | 16 51 23 | 69.8 | 213.6 | 0.9 | | 24.0 | 65 | 2706 | 21 47 26 |
| 21 49 10 | J1602+3326 | 16 51 38 | 68.5 | 208.8 | 0.8 | | 20.3 | -10 | 2706 | 21 49 10 |
| 21 50 10 | =1600+335 | 16 52 38 | 68.4 | 209.3 | 0.8 | | 20.6 | 50 | 2713 | 21 49 11 |
| 21 50 10 | J1556+3517 | 16 52 38 | 69.7 | 214.3 | 0.9 | | 24.5 | -25 | 2713 | No stop |
| 21 51 40 | --- | 16 54 08 | 69.5 | 215.1 | 1.0 | | 25.0 | 65 | 2725 | 21 50 11 |
| 21 51 55 | J1602+3326 | 16 54 23 | 68.3 | 210.3 | 0.9 | | 21.3 | -10 | 2725 | 21 51 55 |
| 21 52 55 | =1600+335 | 16 55 24 | 68.2 | 210.8 | 0.9 | | 21.6 | 50 | 2733 | 21 51 56 |
| 21 52 55 | J1556+3517 | 16 55 24 | 69.4 | 215.7 | 1.0 | | 25.4 | -25 | 2733 | No stop |
| 21 54 25 | --- | 16 56 54 | 69.3 | 216.5 | 1.0 | | 26.0 | 65 | 2744 | 21 52 56 |

Schedule for TORUN (Code Tr ) Page 20

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 21 54 40 | J1602+3326 | 16 57 09 | 68.0 | 211.7 | 0.9 | | 22.2 | -10 | 2744 | 21 54 40 |
| 21 55 40 | =1600+335 | 16 58 09 | 68.0 | 212.2 | 0.9 | | 22.5 | 50 | 2752 | 21 54 41 |
| 21 55 40 | J1556+3517 | 16 58 09 | 69.2 | 217.2 | 1.0 | | 26.4 | -25 | 2752 | No stop |
| 21 57 10 | --- | 16 59 39 | 69.0 | 217.9 | 1.0 | | 26.9 | 65 | 2763 | 21 55 41 |
| 21 57 25 | J1602+3326 | 16 59 54 | 67.8 | 213.1 | 1.0 | | 23.1 | -10 | 2763 | 21 57 25 |
| 21 58 25 | =1600+335 | 17 00 54 | 67.7 | 213.6 | 1.0 | | 23.5 | 50 | 2771 | 21 57 26 |
| 21 58 25 | J1556+3517 | 17 00 54 | 68.9 | 218.6 | 1.1 | | 27.3 | -25 | 2771 | No stop |
| 21 59 55 | --- | 17 02 25 | 68.8 | 219.3 | 1.1 | | 27.8 | 65 | 2783 | 21 58 26 |
| 22 00 10 | J1602+3326 | 17 02 40 | 67.6 | 214.5 | 1.0 | | 24.0 | -10 | 2783 | 22 00 10 |
| 22 01 10 | =1600+335 | 17 03 40 | 67.5 | 215.0 | 1.0 | | 24.4 | 50 | 2790 | 22 00 11 |
| 22 01 10 | J1556+3517 | 17 03 40 | 68.7 | 220.0 | 1.1 | | 28.2 | -25 | 2790 | No stop |
| 22 02 40 | --- | 17 05 10 | 68.5 | 220.7 | 1.1 | | 28.7 | 65 | 2802 | 22 01 11 |
| 22 02 55 | J1602+3326 | 17 05 25 | 67.4 | 215.9 | 1.0 | | 24.9 | -10 | 2802 | 22 02 55 |
| 22 03 55 | =1600+335 | 17 06 25 | 67.3 | 216.4 | 1.1 | | 25.2 | 50 | 2810 | 22 02 56 |
| 22 03 55 | J1556+3517 | 17 06 25 | 68.4 | 221.3 | 1.2 | | 29.0 | -25 | 2810 | No stop |
| 22 05 25 | --- | 17 07 56 | 68.2 | 222.0 | 1.2 | | 29.5 | 65 | 2821 | 22 03 56 |
| 22 05 40 | J1602+3326 | 17 08 11 | 67.1 | 217.2 | 1.1 | | 25.8 | -10 | 2821 | 22 05 40 |
| 22 06 40 | =1600+335 | 17 09 11 | 67.0 | 217.7 | 1.1 | | 26.1 | 50 | 2829 | 22 05 41 |
| 22 06 40 | J1556+3517 | 17 09 11 | 68.1 | 222.6 | 1.2 | | 29.9 | -25 | 2829 | No stop |
| 22 08 10 | --- | 17 10 41 | 68.0 | 223.3 | 1.2 | | 30.3 | 65 | 2840 | 22 06 41 |
| 22 08 25 | J1602+3326 | 17 10 56 | 66.9 | 218.5 | 1.1 | | 26.6 | -10 | 2840 | 22 08 25 |
| 22 09 25 | =1600+335 | 17 11 56 | 66.8 | 219.0 | 1.2 | | 26.9 | 50 | 2848 | 22 08 26 |
| 22 09 25 | J1556+3517 | 17 11 56 | 67.8 | 223.9 | 1.2 | | 30.7 | -25 | 2848 | No stop |
| 22 10 55 | --- | 17 13 27 | 67.7 | 224.6 | 1.3 | | 31.1 | 65 | 2860 | 22 09 26 |
| 22 11 10 | J1602+3326 | 17 13 42 | 66.6 | 219.8 | 1.2 | | 27.4 | -10 | 2860 | 22 11 10 |
| 22 12 10 | =1600+335 | 17 14 42 | 66.5 | 220.3 | 1.2 | | 27.7 | 50 | 2867 | 22 11 11 |
| 22 12 10 | J1556+3517 | 17 14 42 | 67.5 | 225.2 | 1.3 | | 31.5 | -25 | 2867 | No stop |
| 22 13 40 | --- | 17 16 12 | 67.4 | 225.9 | 1.3 | | 31.9 | 65 | 2879 | 22 12 11 |
| 22 13 55 | J1602+3326 | 17 16 27 | 66.3 | 221.1 | 1.2 | | 28.2 | -9 | 2879 | 22 13 55 |
| 22 14 55 | =1600+335 | 17 17 27 | 66.2 | 221.6 | 1.2 | | 28.5 | 51 | 2887 | 22 13 56 |

Schedule for TORUN (Code Tr ) Page 21

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 22 14 55 | J1556+3517 | 17 17 27 | 67.2 | 226.4 | 1.3 | | 32.2 | -25 | 2887 | No stop |
| 22 16 25 | --- | 17 18 57 | 67.1 | 227.1 | 1.4 | | 32.6 | 65 | 2898 | 22 14 56 |
| 22 16 40 | J1602+3326 | 17 19 12 | 66.0 | 222.4 | 1.3 | | 29.0 | -9 | 2898 | 22 16 40 |
| 22 17 40 | =1600+335 | 17 20 13 | 65.9 | 222.8 | 1.3 | | 29.3 | 51 | 2906 | 22 16 41 |
| 22 17 40 | J1556+3517 | 17 20 13 | 66.9 | 227.7 | 1.4 | | 32.9 | -25 | 2906 | No stop |
| 22 19 10 | --- | 17 21 43 | 66.8 | 228.3 | 1.4 | | 33.3 | 65 | 2917 | 22 17 41 |
| 22 19 25 | J1602+3326 | 17 21 58 | 65.8 | 223.6 | 1.3 | | 29.7 | -9 | 2917 | 22 19 25 |
| 22 20 25 | =1600+335 | 17 22 58 | 65.7 | 224.0 | 1.3 | | 30.0 | 51 | 2925 | 22 19 26 |
| 22 20 25 | J1556+3517 | 17 22 58 | 66.6 | 228.9 | 1.4 | | 33.6 | -25 | 2925 | No stop |
| 22 21 55 | --- | 17 24 28 | 66.5 | 229.5 | 1.5 | | 34.0 | 65 | 2937 | 22 20 26 |
| 22 22 10 | J1602+3326 | 17 24 43 | 65.5 | 224.8 | 1.4 | | 30.5 | -9 | 2937 | 22 22 10 |
| 22 23 10 | =1600+335 | 17 25 44 | 65.4 | 225.2 | 1.4 | | 30.7 | 51 | 2944 | 22 22 11 |
| 22 23 10 | J1556+3517 | 17 25 44 | 66.3 | 230.0 | 1.5 | | 34.3 | -25 | 2944 | No stop |
| 22 24 40 | --- | 17 27 14 | 66.1 | 230.7 | 1.5 | | 34.7 | 65 | 2956 | 22 23 11 |
| 22 24 55 | J1602+3326 | 17 27 29 | 65.2 | 226.0 | 1.4 | | 31.1 | -9 | 2956 | 22 24 55 |
| 22 25 55 | =1600+335 | 17 28 29 | 65.1 | 226.4 | 1.4 | | 31.4 | 51 | 2963 | 22 24 56 |
| 22 26 42 | J1606+2717 | 17 29 16 | 60.0 | 218.4 | 1.4 | | 24.8 | 14 | 2963 | 22 26 42 |
| 22 28 42 | =1604+274 | 17 31 17 | 59.9 | 219.2 | 1.4 | | 25.3 | 120 | 2979 | 22 26 43 |
| 22 29 42 | J1602+3326 | 17 32 17 | 64.7 | 228.0 | 1.5 | | 32.3 | 28 | 2979 | 22 29 42 |
| 22 30 42 | =1600+335 | 17 33 17 | 64.5 | 228.4 | 1.5 | | 32.5 | 60 | 2987 | 22 29 43 |
| 22 30 42 | J1556+3517 | 17 33 17 | 65.4 | 233.1 | 1.6 | | 36.0 | -25 | 2987 | No stop |
| 22 32 12 | --- | 17 34 47 | 65.2 | 233.7 | 1.6 | | 36.3 | 65 | 2998 | 22 30 43 |
| 22 32 27 | J1602+3326 | 17 35 02 | 64.3 | 229.1 | 1.5 | | 32.9 | -9 | 2998 | 22 32 27 |
| 22 33 27 | =1600+335 | 17 36 02 | 64.2 | 229.5 | 1.6 | | 33.2 | 51 | 3006 | 22 32 28 |
| 22 33 27 | J1556+3517 | 17 36 02 | 65.1 | 234.2 | 1.6 | | 36.6 | -25 | 3006 | No stop |
| 22 34 57 | --- | 17 37 33 | 64.9 | 234.8 | 1.7 | | 36.9 | 65 | 3017 | 22 33 28 |
| 22 35 12 | J1602+3326 | 17 37 48 | 64.0 | 230.2 | 1.6 | | 33.6 | -9 | 3017 | 22 35 12 |
| 22 36 12 | =1600+335 | 17 38 48 | 63.9 | 230.6 | 1.6 | | 33.8 | 51 | 3025 | 22 35 13 |
| 22 36 12 | J1556+3517 | 17 38 48 | 64.8 | 235.3 | 1.7 | | 37.2 | -25 | 3025 | No stop |
| 22 37 42 | --- | 17 40 18 | 64.6 | 235.8 | 1.7 | | 37.5 | 65 | 3037 | 22 36 13 |

Schedule for TORUN (Code Tr ) Page 22

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 22 37 57 | J1602+3326 | 17 40 33 | 63.7 | 231.3 | 1.6 | | 34.2 | -9 | 3037 | 22 37 57 |
| 22 38 57 | =1600+335 | 17 41 33 | 63.6 | 231.7 | 1.6 | | 34.4 | 51 | 3044 | 22 37 58 |
| 22 38 57 | J1556+3517 | 17 41 33 | 64.4 | 236.3 | 1.7 | | 37.7 | -24 | 3044 | No stop |
| 22 40 27 | --- | 17 43 03 | 64.2 | 236.9 | 1.8 | | 38.0 | 66 | 3056 | 22 38 58 |
| 22 40 42 | J1602+3326 | 17 43 19 | 63.4 | 232.4 | 1.7 | | 34.7 | -9 | 3056 | 22 40 42 |
| 22 41 42 | =1600+335 | 17 44 19 | 63.3 | 232.7 | 1.7 | | 34.9 | 51 | 3063 | 22 40 43 |
| 22 41 42 | J1556+3517 | 17 44 19 | 64.1 | 237.3 | 1.8 | | 38.2 | -24 | 3063 | No stop |
| 22 43 12 | --- | 17 45 49 | 63.9 | 237.9 | 1.8 | | 38.5 | 66 | 3075 | 22 41 43 |
| 22 43 27 | J1602+3326 | 17 46 04 | 63.1 | 233.4 | 1.7 | | 35.3 | -9 | 3075 | 22 43 27 |
| 22 44 27 | =1600+335 | 17 47 04 | 62.9 | 233.8 | 1.7 | | 35.5 | 51 | 3083 | 22 43 28 |
| 22 44 27 | J1556+3517 | 17 47 04 | 63.7 | 238.3 | 1.8 | | 38.7 | -24 | 3083 | No stop |
| 22 45 57 | --- | 17 48 34 | 63.5 | 238.9 | 1.9 | | 39.0 | 66 | 3094 | 22 44 28 |
| 22 46 12 | J1602+3326 | 17 48 49 | 62.7 | 234.4 | 1.8 | | 35.8 | -9 | 3094 | 22 46 12 |
| 22 47 12 | =1600+335 | 17 49 50 | 62.6 | 234.8 | 1.8 | | 36.0 | 51 | 3102 | 22 46 13 |
| 22 47 12 | J1556+3517 | 17 49 50 | 63.4 | 239.3 | 1.9 | | 39.2 | -24 | 3102 | No stop |
| 22 48 42 | --- | 17 51 20 | 63.2 | 239.8 | 1.9 | | 39.5 | 66 | 3113 | 22 47 13 |
| 22 48 57 | J1602+3326 | 17 51 35 | 62.4 | 235.4 | 1.8 | | 36.3 | -9 | 3113 | 22 48 57 |
| 22 49 57 | =1600+335 | 17 52 35 | 62.3 | 235.8 | 1.8 | | 36.5 | 51 | 3121 | 22 48 58 |
| 22 49 57 | J1556+3517 | 17 52 35 | 63.0 | 240.3 | 1.9 | | 39.7 | -24 | 3121 | No stop |
| 22 51 27 | --- | 17 54 05 | 62.8 | 240.8 | 1.9 | | 39.9 | 66 | 3133 | 22 49 58 |
| 22 51 42 | J1602+3326 | 17 54 20 | 62.0 | 236.4 | 1.9 | | 36.8 | -9 | 3133 | 22 51 42 |
| 22 52 42 | =1600+335 | 17 55 20 | 61.9 | 236.8 | 1.9 | | 37.0 | 51 | 3140 | 22 51 43 |
| 22 52 42 | J1556+3517 | 17 55 20 | 62.6 | 241.2 | 2.0 | | 40.1 | -24 | 3140 | No stop |
| 22 54 12 | --- | 17 56 51 | 62.4 | 241.7 | 2.0 | | 40.4 | 66 | 3152 | 22 52 43 |
| 22 54 27 | J1602+3326 | 17 57 06 | 61.7 | 237.4 | 1.9 | | 37.3 | -9 | 3152 | 22 54 27 |
| 22 55 27 | =1600+335 | 17 58 06 | 61.6 | 237.8 | 1.9 | | 37.5 | 51 | 3160 | 22 54 28 |
| 22 55 27 | J1556+3517 | 17 58 06 | 62.3 | 242.1 | 2.0 | | 40.6 | -24 | 3160 | No stop |
| 22 56 57 | --- | 17 59 36 | 62.1 | 242.6 | 2.0 | | 40.8 | 66 | 3171 | 22 55 28 |
| 22 57 12 | J1602+3326 | 17 59 51 | 61.3 | 238.4 | 2.0 | | 37.8 | -8 | 3171 | 22 57 12 |
| 22 58 12 | =1600+335 | 18 00 51 | 61.2 | 238.7 | 2.0 | | 37.9 | 52 | 3179 | 22 57 13 |

Schedule for TORUN (Code Tr ) Page 23

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 22 58 12 | J1556+3517 | 18 00 51 | 61.9 | 243.0 | 2.1 | | 41.0 | -24 | 3179 | No stop |
| 22 59 42 | --- | 18 02 22 | 61.7 | 243.5 | 2.1 | | 41.2 | 66 | 3190 | 22 58 13 |
| 22 59 57 | J1602+3326 | 18 02 37 | 61.0 | 239.3 | 2.0 | | 38.2 | -8 | 3190 | 22 59 57 |
| 23 00 57 | =1600+335 | 18 03 37 | 60.9 | 239.6 | 2.0 | | 38.4 | 52 | 3198 | 22 59 58 |
| 23 00 57 | J1556+3517 | 18 03 37 | 61.5 | 243.9 | 2.1 | | 41.3 | -24 | 3198 | No stop |
| 23 02 27 | --- | 18 05 07 | 61.3 | 244.4 | 2.1 | | 41.6 | 66 | 3210 | 23 00 58 |
| 23 02 42 | J1602+3326 | 18 05 22 | 60.6 | 240.2 | 2.0 | | 38.6 | -8 | 3210 | 23 02 42 |
| 23 03 42 | =1600+335 | 18 06 22 | 60.5 | 240.6 | 2.1 | | 38.8 | 52 | 3217 | 23 02 43 |
| 23 03 42 | J1556+3517 | 18 06 22 | 61.2 | 244.8 | 2.2 | | 41.7 | -24 | 3217 | No stop |
| 23 05 12 | --- | 18 07 53 | 61.0 | 245.3 | 2.2 | | 41.9 | 66 | 3229 | 23 03 43 |
| 23 05 27 | J1602+3326 | 18 08 08 | 60.3 | 241.1 | 2.1 | | 39.1 | -8 | 3229 | 23 05 27 |
| 23 06 27 | =1600+335 | 18 09 08 | 60.1 | 241.5 | 2.1 | | 39.2 | 52 | 3237 | 23 05 28 |
| 23 06 27 | J1556+3517 | 18 09 08 | 60.8 | 245.7 | 2.2 | | 42.1 | -24 | 3237 | No stop |
| 23 07 57 | --- | 18 10 38 | 60.6 | 246.1 | 2.2 | | 42.3 | 66 | 3248 | 23 06 28 |
| 23 08 12 | J1602+3326 | 18 10 53 | 59.9 | 242.0 | 2.1 | | 39.4 | -8 | 3248 | 23 08 12 |
| 23 09 12 | =1600+335 | 18 11 53 | 59.8 | 242.4 | 2.2 | | 39.6 | 52 | 3256 | 23 08 13 |
| 23 09 12 | J1556+3517 | 18 11 53 | 60.4 | 246.5 | 2.2 | | 42.4 | -23 | 3256 | No stop |
| 23 10 42 | --- | 18 13 23 | 60.2 | 247.0 | 2.3 | | 42.6 | 67 | 3267 | 23 09 13 |
| 23 10 57 | J1602+3326 | 18 13 38 | 59.5 | 242.9 | 2.2 | | 39.8 | -8 | 3267 | 23 10 57 |
| 23 11 57 | =1600+335 | 18 14 39 | 59.4 | 243.2 | 2.2 | | 40.0 | 52 | 3275 | 23 10 58 |
| 23 12 49 | J1606+2717 | 18 15 31 | 55.0 | 235.1 | 2.1 | | 33.7 | 21 | 3275 | 23 12 49 |
| 23 14 49 | =1604+274 | 18 17 31 | 54.7 | 235.8 | 2.2 | | 34.0 | 120 | 3290 | 23 12 50 |
| 23 15 49 | J1602+3326 | 18 18 32 | 58.9 | 244.4 | 2.3 | | 40.5 | 28 | 3290 | 23 15 49 |
| 23 16 49 | =1600+335 | 18 19 32 | 58.7 | 244.7 | 2.3 | | 40.6 | 60 | 3298 | 23 15 50 |
| 23 16 49 | J1556+3517 | 18 19 32 | 59.4 | 248.8 | 2.4 | | 43.3 | -23 | 3298 | No stop |
| 23 18 19 | --- | 18 21 02 | 59.1 | 249.2 | 2.4 | | 43.4 | 67 | 3310 | 23 16 50 |
| 23 18 34 | J1602+3326 | 18 21 17 | 58.5 | 245.3 | 2.3 | | 40.8 | -8 | 3310 | 23 18 34 |
| 23 19 34 | =1600+335 | 18 22 17 | 58.4 | 245.6 | 2.3 | | 40.9 | 52 | 3317 | 23 18 35 |
| 23 19 34 | J1556+3517 | 18 22 17 | 59.0 | 249.6 | 2.4 | | 43.6 | -23 | 3317 | No stop |
| 23 21 04 | --- | 18 23 47 | 58.8 | 250.0 | 2.4 | | 43.7 | 67 | 3329 | 23 19 35 |

Schedule for TORUN (Code Tr ) Page 24

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 23 21 19 | J1602+3326 | 18 24 02 | 58.1 | 246.1 | 2.4 | | 41.1 | -8 | 3329 | 23 21 19 |
| 23 22 19 | =1600+335 | 18 25 03 | 58.0 | 246.4 | 2.4 | | 41.2 | 52 | 3337 | 23 21 20 |
| 23 22 19 | J1556+3517 | 18 25 03 | 58.6 | 250.4 | 2.5 | | 43.9 | -23 | 3337 | No stop |
| 23 23 49 | --- | 18 26 33 | 58.4 | 250.8 | 2.5 | | 44.0 | 67 | 3348 | 23 22 20 |
| 23 24 04 | J1602+3326 | 18 26 48 | 57.7 | 246.9 | 2.4 | | 41.4 | -8 | 3348 | 23 24 04 |
| 23 25 04 | =1600+335 | 18 27 48 | 57.6 | 247.2 | 2.4 | | 41.5 | 52 | 3356 | 23 24 05 |
| 23 25 04 | J1556+3517 | 18 27 48 | 58.2 | 251.2 | 2.5 | | 44.1 | -23 | 3356 | No stop |
| 23 26 34 | --- | 18 29 18 | 58.0 | 251.6 | 2.5 | | 44.2 | 67 | 3367 | 23 25 05 |
| 23 26 49 | J1602+3326 | 18 29 33 | 57.4 | 247.7 | 2.4 | | 41.7 | -8 | 3367 | 23 26 49 |
| 23 27 49 | =1600+335 | 18 30 34 | 57.2 | 248.0 | 2.5 | | 41.8 | 52 | 3375 | 23 26 50 |
| 23 27 49 | J1556+3517 | 18 30 34 | 57.8 | 251.9 | 2.6 | | 44.4 | -23 | 3375 | No stop |
| 23 29 19 | --- | 18 32 04 | 57.6 | 252.3 | 2.6 | | 44.5 | 67 | 3387 | 23 27 50 |
| 23 29 34 | J1602+3326 | 18 32 19 | 57.0 | 248.5 | 2.5 | | 42.0 | -7 | 3387 | 23 29 34 |
| 23 30 34 | =1600+335 | 18 33 19 | 56.8 | 248.8 | 2.5 | | 42.1 | 53 | 3394 | 23 29 35 |
| 23 30 34 | J1556+3517 | 18 33 19 | 57.4 | 252.7 | 2.6 | | 44.6 | -23 | 3394 | No stop |
| 23 32 04 | --- | 18 34 49 | 57.2 | 253.1 | 2.6 | | 44.7 | 67 | 3406 | 23 30 35 |
| 23 32 19 | J1602+3326 | 18 35 04 | 56.6 | 249.3 | 2.5 | | 42.3 | -7 | 3406 | 23 32 19 |
| 23 33 19 | =1600+335 | 18 36 04 | 56.5 | 249.6 | 2.6 | | 42.4 | 53 | 3413 | 23 32 20 |
| 23 33 19 | J1556+3517 | 18 36 04 | 57.0 | 253.4 | 2.6 | | 44.8 | -23 | 3413 | No stop |
| 23 34 49 | --- | 18 37 35 | 56.8 | 253.8 | 2.7 | | 44.9 | 67 | 3425 | 23 33 20 |
| 23 35 04 | J1602+3326 | 18 37 50 | 56.2 | 250.1 | 2.6 | | 42.6 | -7 | 3425 | 23 35 04 |
| 23 36 04 | =1600+335 | 18 38 50 | 56.1 | 250.3 | 2.6 | | 42.6 | 53 | 3433 | 23 35 05 |
| 23 36 04 | J1556+3517 | 18 38 50 | 56.6 | 254.1 | 2.7 | | 45.0 | -23 | 3433 | No stop |
| 23 37 34 | --- | 18 40 20 | 56.4 | 254.5 | 2.7 | | 45.1 | 67 | 3444 | 23 36 05 |
| 23 37 49 | J1602+3326 | 18 40 35 | 55.8 | 250.8 | 2.6 | | 42.8 | -7 | 3444 | 23 37 49 |
| 23 38 49 | =1600+335 | 18 41 35 | 55.7 | 251.1 | 2.6 | | 42.9 | 53 | 3452 | 23 37 50 |
| 23 38 49 | J1556+3517 | 18 41 35 | 56.2 | 254.9 | 2.7 | | 45.2 | -23 | 3452 | No stop |
| 23 40 19 | --- | 18 43 06 | 56.0 | 255.2 | 2.8 | | 45.3 | 67 | 3463 | 23 38 50 |
| 23 40 34 | J1602+3326 | 18 43 21 | 55.4 | 251.6 | 2.7 | | 43.0 | -7 | 3463 | 23 40 34 |
| 23 41 34 | =1600+335 | 18 44 21 | 55.3 | 251.8 | 2.7 | | 43.1 | 53 | 3471 | 23 40 35 |

Schedule for TORUN (Code Tr ) Page 25

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 18 Jun 2014 Day 169 --- | | | | | | | | | | |
| 23 41 34 | J1556+3517 | 18 44 21 | 55.8 | 255.6 | 2.8 | | 45.4 | -22 | 3471 | No stop |
| 23 43 04 | --- | 18 45 51 | 55.6 | 256.0 | 2.8 | | 45.5 | 68 | 3483 | 23 41 35 |
| 23 43 19 | J1602+3326 | 18 46 06 | 55.0 | 252.3 | 2.7 | | 43.3 | -7 | 3483 | 23 43 19 |
| 23 44 19 | =1600+335 | 18 47 06 | 54.9 | 252.6 | 2.7 | | 43.3 | 53 | 3490 | 23 43 20 |
| 23 44 19 | J1556+3517 | 18 47 06 | 55.4 | 256.3 | 2.8 | | 45.6 | -22 | 3490 | No stop |
| 23 45 49 | --- | 18 48 36 | 55.2 | 256.6 | 2.9 | | 45.7 | 68 | 3502 | 23 44 20 |
| 23 46 04 | J1602+3326 | 18 48 52 | 54.6 | 253.0 | 2.8 | | 43.5 | -7 | 3502 | 23 46 04 |
| 23 47 04 | =1600+335 | 18 49 52 | 54.5 | 253.3 | 2.8 | | 43.5 | 53 | 3510 | 23 46 05 |
| 23 47 04 | J1556+3517 | 18 49 52 | 55.0 | 257.0 | 2.9 | | 45.8 | -22 | 3510 | No stop |
| 23 48 34 | --- | 18 51 22 | 54.8 | 257.3 | 2.9 | | 45.8 | 68 | 3521 | 23 47 05 |
| 23 48 49 | J1602+3326 | 18 51 37 | 54.2 | 253.7 | 2.8 | | 43.7 | -7 | 3521 | 23 48 49 |
| 23 49 49 | =1600+335 | 18 52 37 | 54.1 | 254.0 | 2.8 | | 43.7 | 53 | 3529 | 23 48 50 |
| 23 50 49 | J1602+3326 | 18 53 37 | 54.0 | 254.3 | 2.8 | | 43.8 | 54 | 3529 | 23 50 49 |
| 23 51 49 | =1600+335 | 18 54 37 | 53.8 | 254.5 | 2.9 | | 43.9 | 60 | 3537 | 23 50 50 |
| 23 51 49 | J1606+3124 | 18 54 37 | 52.9 | 251.2 | 2.8 | | 41.7 | -21 | 3537 | No stop |
| 23 53 19 | =1604+315 | 18 56 08 | 52.7 | 251.5 | 2.8 | | 41.9 | 69 | 3548 | 23 51 50 |
| 23 53 34 | J1602+3326 | 18 56 23 | 53.6 | 255.0 | 2.9 | | 44.0 | -7 | 3548 | 23 53 34 |
| 23 54 34 | =1600+335 | 18 57 23 | 53.4 | 255.2 | 2.9 | | 44.1 | 53 | 3556 | 23 53 35 |
| 23 54 34 | J1606+3124 | 18 57 23 | 52.5 | 251.9 | 2.8 | | 41.9 | -21 | 3556 | No stop |
| 23 56 04 | =1604+315 | 18 58 53 | 52.3 | 252.3 | 2.9 | | 42.1 | 69 | 3567 | 23 54 35 |
| 23 56 19 | J1602+3326 | 18 59 08 | 53.2 | 255.7 | 2.9 | | 44.2 | -6 | 3567 | 23 56 19 |
| 23 57 19 | =1600+335 | 19 00 08 | 53.0 | 255.9 | 3.0 | | 44.2 | 54 | 3575 | 23 56 20 |
| --- Start: Wed 18 Jun 2014 Day 169 -- Stop: Thu 19 Jun 2014 Day 170 --- | | | | | | | | | | |
| 23 58 11 | J1606+2717 | 19 01 00 | 49.0 | 248.4 | 2.9 | | 38.9 | 21 | 3575 | 23 58 11 |
| 00 00 11 | =1604+274 | 19 03 00 | 48.7 | 248.9 | 2.9 | | 39.1 | 120 | 3590 | 23 58 12 |
| 00 01 11 | J1602+3326 | 19 04 01 | 52.4 | 256.9 | 3.0 | | 44.5 | 29 | 3590 | 00 01 11 |
| 00 02 11 | =1600+335 | 19 05 01 | 52.3 | 257.1 | 3.0 | | 44.5 | 60 | 3598 | 00 01 12 |
| 00 02 11 | J1556+3517 | 19 05 01 | 52.8 | 260.6 | 3.1 | | 46.5 | -22 | 3598 | No stop |
| 00 03 41 | --- | 19 06 31 | 52.5 | 260.9 | 3.2 | | 46.6 | 68 | 3610 | 00 02 12 |

Schedule for TORUN (Code Tr ) Page 26

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 19 Jun 2014 Day 170 --- | | | | | | | | | | |
| 00 03 56 | J1602+3326 | 19 06 46 | 52.0 | 257.5 | 3.1 | | 44.6 | -7 | 3610 | 00 03 56 |
| 00 04 56 | =1600+335 | 19 07 46 | 51.9 | 257.8 | 3.1 | | 44.7 | 53 | 3617 | 00 03 57 |
| 00 04 56 | J1556+3517 | 19 07 46 | 52.4 | 261.2 | 3.2 | | 46.6 | -22 | 3617 | No stop |
| 00 06 26 | --- | 19 09 16 | 52.1 | 261.6 | 3.2 | | 46.7 | 68 | 3629 | 00 04 57 |
| 00 06 41 | J1602+3326 | 19 09 31 | 51.6 | 258.2 | 3.1 | | 44.8 | -6 | 3629 | 00 06 41 |
| 00 07 41 | =1600+335 | 19 10 32 | 51.5 | 258.4 | 3.1 | | 44.8 | 54 | 3637 | 00 06 42 |
| 00 07 41 | J1556+3517 | 19 10 32 | 52.0 | 261.9 | 3.2 | | 46.7 | -22 | 3637 | No stop |
| 00 09 11 | --- | 19 12 02 | 51.7 | 262.2 | 3.2 | | 46.8 | 68 | 3648 | 00 07 42 |
| 00 09 26 | J1602+3326 | 19 12 17 | 51.2 | 258.8 | 3.2 | | 44.9 | -6 | 3648 | 00 09 26 |
| 00 10 26 | =1600+335 | 19 13 17 | 51.1 | 259.1 | 3.2 | | 44.9 | 54 | 3656 | 00 09 27 |
| 00 10 26 | J1556+3517 | 19 13 17 | 51.5 | 262.5 | 3.3 | | 46.8 | -22 | 3656 | No stop |
| 00 11 56 | --- | 19 14 47 | 51.3 | 262.8 | 3.3 | | 46.9 | 68 | 3667 | 00 10 27 |
| 00 12 11 | J1602+3326 | 19 15 02 | 50.8 | 259.5 | 3.2 | | 45.0 | -6 | 3667 | 00 12 11 |
| 00 13 11 | =1600+335 | 19 16 03 | 50.7 | 259.7 | 3.2 | | 45.1 | 54 | 3675 | 00 12 12 |
| 00 13 11 | J1556+3517 | 19 16 03 | 51.1 | 263.1 | 3.3 | | 46.9 | -22 | 3675 | No stop |
| 00 14 41 | --- | 19 17 33 | 50.9 | 263.4 | 3.3 | | 46.9 | 68 | 3687 | 00 13 12 |
| 00 14 56 | J1602+3326 | 19 17 48 | 50.4 | 260.1 | 3.3 | | 45.1 | -6 | 3687 | 00 14 56 |
| 00 15 56 | =1600+335 | 19 18 48 | 50.3 | 260.4 | 3.3 | | 45.2 | 54 | 3694 | 00 14 57 |
| 00 15 56 | J1556+3517 | 19 18 48 | 50.7 | 263.7 | 3.4 | | 47.0 | -22 | 3694 | No stop |
| 00 17 26 | --- | 19 20 18 | 50.5 | 264.0 | 3.4 | | 47.0 | 68 | 3706 | 00 15 57 |
| 00 17 41 | J1602+3326 | 19 20 33 | 50.0 | 260.8 | 3.3 | | 45.2 | -6 | 3706 | 00 17 41 |
| 00 18 41 | =1600+335 | 19 21 33 | 49.9 | 261.0 | 3.3 | | 45.3 | 54 | 3713 | 00 17 42 |
| 00 18 41 | J1556+3517 | 19 21 33 | 50.3 | 264.3 | 3.4 | | 47.0 | -21 | 3713 | No stop |
| 00 20 11 | --- | 19 23 04 | 50.1 | 264.6 | 3.4 | | 47.1 | 69 | 3725 | 00 18 42 |
| 00 20 26 | J1602+3326 | 19 23 19 | 49.6 | 261.4 | 3.3 | | 45.3 | -6 | 3725 | 00 20 26 |
| 00 21 26 | =1600+335 | 19 24 19 | 49.4 | 261.6 | 3.4 | | 45.4 | 54 | 3733 | 00 20 27 |
| 00 21 26 | J1556+3517 | 19 24 19 | 49.9 | 264.9 | 3.5 | | 47.1 | -21 | 3733 | No stop |
| 00 22 56 | --- | 19 25 49 | 49.7 | 265.2 | 3.5 | | 47.1 | 69 | 3744 | 00 21 27 |
| 00 23 11 | J1602+3326 | 19 26 04 | 49.2 | 262.0 | 3.4 | | 45.4 | -6 | 3744 | 00 23 11 |
| 00 24 11 | =1600+335 | 19 27 04 | 49.0 | 262.2 | 3.4 | | 45.5 | 54 | 3752 | 00 23 12 |
| 00 24 11 | J1556+3517 | 19 27 04 | 49.5 | 265.5 | 3.5 | | 47.2 | -21 | 3752 | No stop |
| 00 25 41 | --- | 19 28 35 | 49.3 | 265.8 | 3.5 | | 47.2 | 69 | 3763 | 00 24 12 |

Schedule for TORUN (Code Tr ) Page 27

The Nuclear Environment of the First Radio Loud BALQSO J1556+3517

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Thu 19 Jun 2014 Day 170 --- | | | | | | | | | | |
| 00 25 56 | J1602+3326 | 19 28 50 | 48.8 | 262.6 | 3.4 | | 45.5 | -6 | 3763 | 00 25 56 |
| 00 26 56 | =1600+335 | 19 29 50 | 48.6 | 262.8 | 3.5 | | 45.5 | 54 | 3771 | 00 25 57 |
| 00 26 56 | J1556+3517 | 19 29 50 | 49.1 | 266.1 | 3.5 | | 47.2 | -21 | 3771 | No stop |
| 00 28 26 | --- | 19 31 20 | 48.8 | 266.4 | 3.6 | | 47.2 | 69 | 3783 | 00 26 57 |
| 00 28 41 | J1602+3326 | 19 31 35 | 48.4 | 263.2 | 3.5 | | 45.6 | -6 | 3783 | 00 28 41 |
| 00 29 41 | =1600+335 | 19 32 35 | 48.2 | 263.5 | 3.5 | | 45.6 | 54 | 3790 | 00 28 42 |
| 00 29 41 | J1556+3517 | 19 32 35 | 48.7 | 266.7 | 3.6 | | 47.2 | -21 | 3790 | No stop |
| 00 31 11 | --- | 19 34 05 | 48.4 | 267.0 | 3.6 | | 47.3 | 69 | 3802 | 00 29 42 |
| 00 31 26 | J1602+3326 | 19 34 21 | 48.0 | 263.8 | 3.5 | | 45.7 | -6 | 3802 | 00 31 26 |
| 00 32 26 | =1600+335 | 19 35 21 | 47.8 | 264.1 | 3.5 | | 45.7 | 54 | 3810 | 00 31 27 |
| 00 32 26 | J1556+3517 | 19 35 21 | 48.2 | 267.2 | 3.6 | | 47.3 | -21 | 3810 | No stop |
| 00 33 56 | --- | 19 36 51 | 48.0 | 267.6 | 3.7 | | 47.3 | 69 | 3821 | 00 32 27 |
| 00 34 11 | J1602+3326 | 19 37 06 | 47.5 | 264.4 | 3.6 | | 45.7 | -6 | 3821 | 00 34 11 |
| 00 35 11 | =1600+335 | 19 38 06 | 47.4 | 264.7 | 3.6 | | 45.7 | 54 | 3829 | 00 34 12 |
| 00 35 11 | J1556+3517 | 19 38 06 | 47.8 | 267.8 | 3.7 | | 47.3 | -21 | 3829 | No stop |
| 00 36 41 | --- | 19 39 36 | 47.6 | 268.1 | 3.7 | | 47.3 | 69 | 3840 | 00 35 12 |
| 00 36 56 | J1602+3326 | 19 39 51 | 47.1 | 265.0 | 3.6 | | 45.8 | -6 | 3840 | 00 36 56 |
| 00 37 56 | =1600+335 | 19 40 52 | 47.0 | 265.2 | 3.6 | | 45.8 | 54 | 3848 | 00 36 57 |
| 00 37 56 | J1556+3517 | 19 40 52 | 47.4 | 268.4 | 3.7 | | 47.3 | -21 | 3848 | No stop |
| 00 39 26 | --- | 19 42 22 | 47.2 | 268.7 | 3.8 | | 47.3 | 69 | 3860 | 00 37 57 |
| 00 39 41 | J1602+3326 | 19 42 37 | 46.7 | 265.6 | 3.7 | | 45.8 | -6 | 3860 | 00 39 41 |
| 00 40 41 | =1600+335 | 19 43 37 | 46.6 | 265.8 | 3.7 | | 45.8 | 54 | 3867 | 00 39 42 |
| 00 40 41 | J1556+3517 | 19 43 37 | 47.0 | 268.9 | 3.8 | | 47.3 | -21 | 3867 | No stop |
| 00 42 11 | --- | 19 45 07 | 46.8 | 269.2 | 3.8 | | 47.3 | 69 | 3879 | 00 40 42 |
| 00 42 26 | J1602+3326 | 19 45 22 | 46.3 | 266.2 | 3.7 | | 45.9 | -6 | 3879 | 00 42 26 |
| 00 43 26 | =1600+335 | 19 46 23 | 46.2 | 266.4 | 3.7 | | 45.9 | 54 | 3887 | 00 42 27 |
| 00 44 15 | J1606+2717 | 19 47 12 | 42.3 | 259.6 | 3.7 | | 41.6 | 20 | 3887 | 00 44 15 |
| 00 46 15 | =1604+274 | 19 49 12 | 42.0 | 260.0 | 3.7 | | 41.7 | 120 | 3902 | 00 44 16 |
| 00 47 32 | 3C345 | 19 50 29 | 55.9 | 266.2 | 3.1 | | 51.2 | 10 | 3902 | 00 47 32 |
| 00 52 32 | --- | 19 55 30 | 55.1 | 267.3 | 3.2 | | 51.3 | 300 | 3940 | 00 47 33 |
| 00 52 47 | 3C345 | 19 55 45 | 55.1 | 267.4 | 3.2 | | 51.3 | 9 | 3940 | 00 52 47 |
| 00 57 32 | --- | 20 00 31 | 54.4 | 268.3 | 3.3 | | 51.4 | 285 | 3977 | 00 52 48 |

SETUP FILE INFORMATION:

======== Setup file: sess214.K1024

Setup group: 10 Station: TORUN Total bit rate: 1024
Format: MARK5B Bits per sample: 2 Sample rate: 32.000
Number of channels: 16 DBE type: DBBC_DDC Speedup factor: 1.00

Disk used to record data.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1st LO= | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 |
| | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 | 21500.00 |
| Net SB= | L | L | U | U | L | L | U | U |
| | L | L | U | U | L | L | U | U |
| IF SB = | U | U | U | U | U | U | U | U |
| | U | U | U | U | U | U | U | U |
| Pol. = | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| | RCP | LCP | RCP | LCP | RCP | LCP | RCP | LCP |
| BBC = | 1 | 5 | 1 | 5 | 2 | 6 | 2 | 6 |
| | 3 | 7 | 3 | 7 | 4 | 8 | 4 | 8 |
| BBC SB= | L | L | U | U | L | L | U | U |
| | L | L | U | U | L | L | U | U |
| IF = | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |
| | A1 | B1 | A1 | B1 | A1 | B1 | A1 | B1 |

The following frequency sets based on these setups were used.

Frequency Set: 5 Setup file default. Used with PCAL = 1MHz

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| LO sum= | 22187.49 | 22187.49 | 22187.49 | 22187.49 | 22219.49 | 22219.49 | 22219.49 | 22219.49 |
| | 22251.49 | 22251.49 | 22251.49 | 22251.49 | 22283.49 | 22283.49 | 22283.49 | 22283.49 |
| BBC fr= | 687.49 | 687.49 | 687.49 | 687.49 | 719.49 | 719.49 | 719.49 | 719.49 |
| | 751.49 | 751.49 | 751.49 | 751.49 | 783.49 | 783.49 | 783.49 | 783.49 |
| Bandwd= | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 |
| | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 |

Matching frequency sets: 5

Track assignments are:
track1= 18, 26, 2, 10, 20, 28, 4, 12, 22, 30, 6, 14, 24, 32, 8, 16
barrel=roll_off

POSITIONS OF SOURCES USED IN RECORDING SCANS

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * J1556+3517 | 15 54 40.599369 | * 15 56 33.772000 | 15 57 08.076761 | 0.00 |
| | 35 26 35.04417 | * 35 17 57.64000 | 35 15 40.50496 | 0.00 |
| * J1602+3326 | 16 00 11.909331 | * 16 02 07.263461 | 16 02 42.214967 | 0.12 |
| 1600+335 | 33 35 09.59253 | * 33 26 53.07221 | 33 24 41.69576 | 0.10 |
| * J1606+3124 | 16 04 10.611566 | * 16 06 08.518385 | 16 06 44.216441 | 0.21 |
| 1604+315 | 31 32 47.72177 | * 31 24 46.45776 | 31 22 39.21707 | 0.29 |
| * J1606+2717 | 16 04 54.881876 | * 16 06 58.300348 | 16 07 35.583850 | 0.32 |
| 1604+274 | 27 25 03.85147 | * 27 17 05.58299 | 27 14 58.71382 | 0.50 |
| J1642+3948 | 16 41 17.606228 | * 16 42 58.809965 | 16 43 29.896763 | 0.77 |
| * 3C345 | 39 54 10.81496 | * 39 48 36.99402 | 39 47 12.44431 | 0.52 |

# rk01h0tr

RadioAstron AGN Survey

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Observing mode: C/K-band, dual-pol

Schedule for TORUN (Code Tr ) Page 2
RadioAstron AGN Survey
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 21 Jun 2014 Day 172 --- | | | | | | | | | | |
| ---------- C-band VLBI scans ---------- | | | | | | | | | | |
| Next scan frequencies: | | 4836.00 | 4836.00 | 4836.00 | 4836.00 | | | | | |
| Next BBC frequencies: | | 736.00 | 736.00 | 736.00 | 736.00 | | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | | | | | |
| 21 20 00 | 1226+023 | 16 34 13 | 18.5 | 247.3 | 4.1 | | 33.7 | 0 | 0 | 21 20 00 |
| 21 39 30 | --- | 16 53 46 | 15.8 | 251.5 | 4.4 | | 34.7 | 1170 | 37 | 21 20 01 |
| 21 40 00 | 1226+023 | 16 54 16 | 15.7 | 251.6 | 4.4 | | 34.8 | 24 | 37 | 21 40 00 |
| 22 00 00 | --- | 17 14 20 | 12.8 | 255.9 | 4.7 | | 35.6 | 1200 | 76 | 21 40 01 |

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: ra6cm2.set
--- WARNING --- This group does not match an entry in the frequency catalog.
This might be ok because the catalog is not complete.
But be very careful to be sure that the setup is correct.

Setup group: 2 Station: TORUN Total bit rate: 256
Format: MKIV1:4 Bits per sample: 2 Sample rate: 32.000
Number of channels: 4 DBE type: Speedup factor: 1.00

Disk used to record data.

```
  1st LO=   4100.00   4100.00   4100.00   4100.00
  Net SB=         L         L         U         U
  IF SB =         U         U         U         U
  Pol.  =      RCP       LCP       RCP       LCP
  BBC   =         1         2         1         2
  BBC SB=         L         L         U         U
  IF    =        C         A         C         A

 The following frequency sets based on these setups were used.

  Frequency Set:   1  Setup file default.  Used with PCAL = 1MHz
  LO sum=   4836.00  4836.00  4836.00  4836.00
  BBC fr=    736.00   736.00   736.00   736.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   1

  Track assignments are:
   track1=   2, 18,  3, 19
   barrel=roll_off


 POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                        Source position (RA/Dec)                        Error
                      (B1950)            (J2000)            (Date)            (mas)

* FAKERA            11 57 21.769299   * 12 00 00.000000     12 00 37.884957       0.00
                    85 16 41.77889    * 85 00 00.00000      84 55 27.18126        0.00
                    From catalog imbedded in main SCHED input file.
                    fake circumpolar target for a TS to look at

* 1226+023          12 26 33.245835   * 12 29 06.699731     12 29 51.708514       0.00
  J1229+0203        02 19 43.30547    * 02 03 08.59797      01 58 19.95582        0.00
  3C273B            ./rk01h0_sources.radioastron
  3C273             AGN, rfc_2013d Petrov, 2013, unpublished 32011 observations, RA-AO2-12,  RA-AO2-


EFFECT OF SOLAR CORONA

 The solar corona can cause unstable phases for sources too close to the Sun.
 SCHED provides warnings at individual scans for distances less than 10 degrees.
 The distance from the Sun to each source in this schedule is:
   Source         Sun distance (deg)
  1226+023            95.6

 Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
 that the Sun will cause amplitude reductions on the  longest VLBA baselines
 at a solar distance of 60deg F^(-0.6) where F is in GHz.
 For common VLBI bands, this is:
      1.6 GHz         45. deg
      2.3 GHz         36. deg
      5.0 GHz         23. deg
      8.4 GHz         17. deg
     15.0 GHz         12. deg
     22.0 GHz          9. deg
```

# rk01h1tr

RadioAstron AGN Survey

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Observing mode: L-band, dual-pol

Schedule for TORUN (Code Tr ) Page 2
RadioAstron AGN Survey
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sat 21 Jun 2014 Day 172 --- | | | | | | | | | | |
| Next scan frequencies: | | | 1668.00 | 1668.00 | 1668.00 | 1668.00 | | | | |
| Next BBC frequencies: | | | 732.00 | 732.00 | 732.00 | 732.00 | | | | |
| Next scan bandwidths: | | | 16.00 | 16.00 | 16.00 | 16.00 | | | | |
| 23 00 00 | 1403+411 | 18 14 29 | 47.3 | 279.4 | 4.1 | | 51.6 | 0 | 0 | 23 00 00 |
| 23 19 30 | --- | 18 34 03 | 44.4 | 282.7 | 4.5 | | 50.8 | 1170 | 37 | 23 00 01 |
| 23 20 00 | 1403+411 | 18 34 33 | 44.4 | 282.8 | 4.5 | | 50.8 | 24 | 37 | 23 20 00 |
| 23 40 00 | --- | 18 54 36 | 41.5 | 286.1 | 4.8 | | 49.7 | 1200 | 76 | 23 20 01 |

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: ra18cm2.set
--- WARNING --- This group does not match an entry in the frequency catalog.
This might be ok because the catalog is not complete.
But be very careful to be sure that the setup is correct.

Setup group: 8 Station: TORUN Total bit rate: 256
Format: MKIV1:4 Bits per sample: 2 Sample rate: 32.000
Number of channels: 4 DBE type: Speedup factor: 1.00

Disk used to record data.

```
  1st LO=   2400.00   2400.00   2400.00   2400.00
  Net SB=         L         L         U         U
  IF SB =         L         L         L         L
  Pol.  =      RCP       LCP       RCP       LCP
  BBC   =         1         2         1         2
  BBC SB=         U         U         L         L
  IF    =        C         A         C         A

 The following frequency sets based on these setups were used.

  Frequency Set:   7  Setup file default.  Used with PCAL = 1MHz
  LO sum=   1668.00  1668.00  1668.00  1668.00
  BBC fr=    732.00   732.00   732.00   732.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   7

  Track assignments are:
   track1=   2, 18,  3, 19
   barrel=roll_off


 POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                        Source position (RA/Dec)                        Error
                      (B1950)            (J2000)            (Date)            (mas)

* 1403+411          14 03 04.025300   * 14 05 07.795440     14 05 44.416083       0.00
  J1405+4056        41 11 16.37060    * 40 56 57.83098      40 53 03.65608        0.00



EFFECT OF SOLAR CORONA

 The solar corona can cause unstable phases for sources too close to the Sun.
 SCHED provides warnings at individual scans for distances less than 10 degrees.
 The distance from the Sun to each source in this schedule is:
   Source         Sun distance (deg)
  3C286               95.7
  1403+411            95.5

 Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
 that the Sun will cause amplitude reductions on the  longest VLBA baselines
 at a solar distance of 60deg F^(-0.6) where F is in GHz.
 For common VLBI bands, this is:
      1.6 GHz         45. deg
      2.3 GHz         36. deg
      5.0 GHz         23. deg
      8.4 GHz         17. deg
     15.0 GHz         12. deg
     22.0 GHz          9. deg
```

# rk01h3tr

RadioAstron AGN Survey

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UWAGA: zmiana pasma w czasie tego eksperymentu!!!

########################################################################################
######################## Observing mode: C&L-band, dual-pol ############################
########################################################################################

Schedule for TORUN (Code Tr ) Page 2
RadioAstron AGN Survey
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 22 Jun 2014 Day 173 --- | | | | | | | | | | |
| ---------- C-band VLBI scans ---------- | | | | | | | | | | |
| Next scan frequencies: | | 4836.00 | 4836.00 | 4836.00 | 4836.00 | | | | | |
| Next BBC frequencies: | | 736.00 | 736.00 | 736.00 | 736.00 | | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | | | | | |
| 03 00 00 | 1403+411 | 22 15 09 | 16.3 | -41.7 | 8.2 | | 31.9 | 0 | 0 | 03 00 00 |
| 03 15 00 | --- | 22 30 11 | 14.8 | -39.2 | 8.4 | | 30.1 | 900 | 29 | 03 00 01 |
| ---------- L-band VLBI scans ---------- | | | | | | | | | | |
| Next scan frequencies: | | 1668.00 | 1668.00 | 1668.00 | 1668.00 | | | | | |
| Next BBC frequencies: | | 732.00 | 732.00 | 732.00 | 732.00 | | | | | |
| 03 20 00 | 1403+411 | 22 35 12 | 14.4 | -38.3 | 8.5 | | 29.5 | 294 | 29 | 03 20 00 |
| 03 40 00 | --- | 22 55 15 | 12.6 | -34.9 | 8.8 | | 27.0 | 1200 | 67 | 03 20 01 |

SETUP FILE INFORMATION:

======== Setup file: ra6cm2.set

Setup group: 1 Station: TORUN Total bit rate: 256
Format: MKIV1:4 Bits per sample: 2 Sample rate: 32.000
Number of channels: 4 DBE type: Speedup factor: 1.00

Disk used to record data.

```
  1st LO=   4100.00   4100.00   4100.00   4100.00
  Net SB=         L         L         U         U
  IF SB =         U         U         U         U
  Pol.  =      RCP       LCP       RCP       LCP
  BBC   =         1         2         1         2
  BBC SB=         L         L         U         U
  IF    =        C         A         C         A

 The following frequency sets based on these setups were used.

  Frequency Set:   6  Setup file default.  Used with PCAL = 1MHz
  LO sum=   4836.00  4836.00  4836.00  4836.00
  BBC fr=    736.00   736.00   736.00   736.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   6

  Track assignments are:
   track1=   2, 18,  3, 19
   barrel=roll_off


======== Setup file: ra18cm2.set

  Setup group:    7         Station: TORUN             Total bit rate:   256
  Format: MKIV1:4           Bits per sample: 2         Sample rate: 32.000
  Number of channels:  4    DBE type:                  Speedup factor:   1.00

  Disk used to record data.

  1st LO=   2400.00   2400.00   2400.00   2400.00
  Net SB=         L         L         U         U
  IF SB =         L         L         L         L
  Pol.  =      RCP       LCP       RCP       LCP
  BBC   =         1         2         1         2
  BBC SB=         U         U         L         L
  IF    =        C         A         C         A

 The following frequency sets based on these setups were used.

  Frequency Set:   7  Setup file default.  Used with PCAL = 1MHz
  LO sum=   1668.00  1668.00  1668.00  1668.00
  BBC fr=    732.00   732.00   732.00   732.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   7

  Track assignments are:
   track1=   2, 18,  3, 19
   barrel=roll_off




POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                        Source position (RA/Dec)                        Error
                       (B1950)            (J2000)            (Date)            (mas)

* 1403+411          14 03 04.025300   * 14 05 07.795440     14 05 44.412516       0.00
  J1405+4056        41 11 16.37060    * 40 56 57.83098      40 53 03.69030        0.00
```

# rk07betr

RadioAstron Maser observations

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Observing mode: K-band, dual-pol

Schedule for TORUN (Code Tr ) Page 2

RadioAstron Maser observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Sun 22 Jun 2014 Day 173 --- | | | | | | | | | | |
| ---------- This is a fringe finder/clock offset calibrator 0.9 deg. from V645_CYG_H2O ---------- | | | | | | | | | | |
| Next scan frequencies: | | 22236.00 | 22236.00 | 22236.00 | 22236.00 | | | | | |
| Next BBC frequencies: | | 736.00 | 736.00 | 736.00 | 736.00 | | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | | | | | |
| 05 50 00 | 2135+508 | 01 05 37 | 58.7 | -72.3 | 3.5 | | 65.6 | 0 | 0 | 05 50 00 |
| 05 55 00 | --- | 01 10 38 | 58.0 | -71.7 | 3.6 | | 65.2 | 300 | 10 | 05 50 01 |
| ---------- Please, make sure PCAL is OFF for V645_CYG_H2O maser observations. ---------- | | | | | | | | | | |
| 06 00 00 | V645_CYG_H2O | 01 15 38 | 57.3 | -72.7 | 3.6 | | 63.9 | 283 | 10 | 06 00 00 |
| 06 09 30 | --- | 01 25 10 | 56.0 | -71.5 | 3.7 | | 63.1 | 570 | 28 | 06 00 01 |
| 06 10 00 | V645_CYG_H2O | 01 25 40 | 55.9 | -71.4 | 3.8 | | 63.0 | 24 | 28 | 06 10 00 |
| 06 19 30 | --- | 01 35 12 | 54.6 | -70.2 | 3.9 | | 62.2 | 570 | 46 | 06 10 01 |
| 06 20 00 | V645_CYG_H2O | 01 35 42 | 54.5 | -70.1 | 3.9 | | 62.2 | 24 | 46 | 06 20 00 |
| 06 29 30 | --- | 01 45 13 | 53.1 | -68.9 | 4.1 | | 61.3 | 570 | 64 | 06 20 01 |
| 06 30 00 | V645_CYG_H2O | 01 45 43 | 53.1 | -68.8 | 4.1 | | 61.3 | 24 | 64 | 06 30 00 |
| 06 39 30 | --- | 01 55 15 | 51.8 | -67.6 | 4.2 | | 60.4 | 570 | 83 | 06 30 01 |
| 06 40 00 | V645_CYG_H2O | 01 55 45 | 51.7 | -67.6 | 4.3 | | 60.3 | 24 | 83 | 06 40 00 |
| 06 49 30 | --- | 02 05 17 | 50.4 | -66.4 | 4.4 | | 59.5 | 570 | 101 | 06 40 01 |
| 06 50 00 | V645_CYG_H2O | 02 05 47 | 50.3 | -66.3 | 4.4 | | 59.4 | 24 | 101 | 06 50 00 |
| 07 00 00 | --- | 02 15 48 | 48.9 | -65.0 | 4.6 | | 58.4 | 600 | 120 | 06 50 01 |

```
SETUP FILE INFORMATION:

 ======== Setup file: ra1cm2.set
   Matching groups in ./rk07be_freq.dat:   tr1cm

   Setup group:    1         Station: TORUN            Total bit rate:   256
   Format: MKIV1:4           Bits per sample: 2        Sample rate: 32.000
   Number of channels:  4    DBE type:                 Speedup factor:   1.00

   Disk used to record data.

   1st LO=  21500.00  21500.00  21500.00  21500.00
   Net SB=         L         L         U         U
   IF SB =         U         U         U         U
   Pol.  =       RCP       LCP       RCP       LCP
   BBC   =         1         2         1         2
   BBC SB=         L         L         U         U
   IF    =        C         A         C         A

  The following frequency sets based on these setups were used.

   Frequency Set:   4  Setup file default.  Used with PCAL = off
   LO sum=   22236.00  22236.00  22236.00  22236.00
   BBC fr=     736.00    736.00    736.00    736.00
   Bandwd=      16.00     16.00     16.00     16.00
    Matching frequency sets:   4

   Track assignments are:
    track1=   2, 18,  3, 19
    barrel=roll_off


 POSITIONS OF SOURCES USED IN RECORDING SCANS

   Source                        Source position (RA/Dec)                        Error
                        (B1950)            (J2000)            (Date)            (mas)

 * V645_CYG_H2O      21 38 10.616606   * 21 39 58.271710     21 40 31.568637       0.00
                     50 00 42.60479    * 50 14 21.01400      50 18 13.66822        0.00

 * 2135+508          21 35 15.499567   * 21 37 00.986207     21 37 33.700151       0.00
   J2137+5101        50 48 05.19436    * 51 01 36.12906      51 05 26.66539        0.00


EFFECT OF SOLAR CORONA

  The solar corona can cause unstable phases for sources too close to the Sun.
  SCHED provides warnings at individual scans for distances less than 10 degrees.
  The distance from the Sun to each source in this schedule is:
    Source         Sun distance (deg)
   V645_CYG_H2O        92.1
   2135+508            91.9
```

# rr010tr

## e-EVN runs: RR010, EG082D, and TE112

PI: *Cristina Romero-Canizales, Marcin Gawronski, Zsolt Paragi*

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Observing mode: realtime e-vlbi

Notes: v2.0 moves Tr to DBBC

Schedule for TORUN (Code Tr ) Page 2
e-EVN runs: RR010, EG082D, and TE112
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| Next scan frequencies: | | 4942.49 | 4942.49 | 4942.49 | 4942.49 | 4974.49 | 4974.49 | 4974.49 | 4974.49 | |
| | | 5006.49 | 5006.49 | 5006.49 | 5006.49 | 5038.49 | 5038.49 | 5038.49 | 5038.49 | |
| Next BBC frequencies: | | 742.49 | 742.49 | 742.49 | 742.49 | 774.49 | 774.49 | 774.49 | 774.49 | |
| | | 806.49 | 806.49 | 806.49 | 806.49 | 838.49 | 838.49 | 838.49 | 838.49 | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | |
| | | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | |
| 09 00 00 | DA193 | 04 24 01 | 69.4 | 120.9 | -1.5 | | -42.1 | 0 | 0 | 09 00 00 |
| 09 15 00 | --- | 04 39 04 | 71.3 | 127.4 | -1.3 | | -38.4 | 900 | 115 | 09 00 01 |
| 09 15 40 | DA193 | 04 39 44 | 71.4 | 127.8 | -1.3 | | -38.2 | 33 | 115 | 09 15 40 |
| 09 30 00 | --- | 04 54 06 | 73.0 | 135.1 | -1.0 | | -33.5 | 860 | 226 | 09 15 41 |
| 09 30 40 | DA193 | 04 54 46 | 73.1 | 135.4 | -1.0 | | -33.3 | 33 | 226 | 09 30 40 |
| 09 45 00 | --- | 05 09 09 | 74.5 | 144.0 | -0.8 | | -27.4 | 860 | 336 | 09 30 41 |
| 09 45 40 | DA193 | 05 09 49 | 74.5 | 144.4 | -0.8 | | -27.1 | 33 | 336 | 09 45 40 |
| 10 00 00 | --- | 05 24 11 | 75.6 | 154.2 | -0.5 | | -19.9 | 860 | 446 | 09 45 41 |
| 10 00 40 | DA193 | 05 24 51 | 75.7 | 154.7 | -0.5 | | -19.5 | 33 | 446 | 10 00 40 |
| 10 15 00 | --- | 05 39 13 | 76.4 | 165.8 | -0.3 | | -11.1 | 860 | 556 | 10 00 41 |
| 10 18 00 | 4C39.25 | 05 42 14 | 49.6 | 87.0 | -3.8 | | -50.5 | 7 | 556 | 10 18 00 |
| 10 30 00 | --- | 05 54 16 | 51.4 | 89.3 | -3.6 | | -50.6 | 720 | 649 | 10 18 01 |
| 10 30 40 | 4C39.25 | 05 54 56 | 51.5 | 89.5 | -3.6 | | -50.6 | 34 | 649 | 10 30 40 |
| 10 45 00 | --- | 06 09 18 | 53.6 | 92.4 | -3.3 | | -50.5 | 860 | 759 | 10 30 41 |
| 10 45 40 | 4C39.25 | 06 09 58 | 53.7 | 92.5 | -3.3 | | -50.5 | 34 | 759 | 10 45 40 |
| 11 00 00 | --- | 06 24 21 | 55.9 | 95.6 | -3.1 | | -50.2 | 860 | 869 | 10 45 41 |
| 11 00 40 | 4C39.25 | 06 25 01 | 56.0 | 95.8 | -3.0 | | -50.2 | 34 | 869 | 11 00 40 |
| 11 15 00 | --- | 06 39 23 | 58.1 | 99.1 | -2.8 | | -49.7 | 860 | 979 | 11 00 41 |
| 11 15 40 | 4C39.25 | 06 40 03 | 58.2 | 99.2 | -2.8 | | -49.7 | 34 | 979 | 11 15 40 |
| 11 30 00 | --- | 06 54 26 | 60.3 | 102.8 | -2.6 | | -48.9 | 860 | 1090 | 11 15 41 |

Schedule for TORUN (Code Tr ) Page 3

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 11 30 40 | 4C39.25 | 06 55 06 | 60.4 | 103.0 | -2.5 | | -48.8 | 34 | 1090 | 11 30 40 |
| 11 45 00 | --- | 07 09 28 | 62.5 | 106.9 | -2.3 | | -47.7 | 860 | 1200 | 11 30 41 |
| 11 45 40 | 4C39.25 | 07 10 08 | 62.6 | 107.1 | -2.3 | | -47.6 | 34 | 1200 | 11 45 40 |
| 12 00 00 | --- | 07 24 31 | 64.7 | 111.4 | -2.1 | | -46.0 | 860 | 1310 | 11 45 41 |
| 12 00 40 | 4C39.25 | 07 25 11 | 64.7 | 111.6 | -2.0 | | -45.9 | 34 | 1310 | 12 00 40 |
| 12 15 00 | --- | 07 39 33 | 66.7 | 116.4 | -1.8 | | -43.8 | 860 | 1421 | 12 00 41 |
| 12 15 40 | 4C39.25 | 07 40 13 | 66.8 | 116.6 | -1.8 | | -43.7 | 34 | 1421 | 12 15 40 |
| 12 30 00 | --- | 07 54 36 | 68.7 | 122.1 | -1.6 | | -40.9 | 860 | 1531 | 12 15 41 |
| 12 33 00 | 1156+295 | 07 57 36 | 40.3 | 93.7 | -4.0 | | -43.3 | 59 | 1531 | 12 33 00 |
| 12 45 00 | --- | 08 09 38 | 42.1 | 96.3 | -3.8 | | -43.1 | 720 | 1623 | 12 33 01 |
| 12 45 40 | 1156+295 | 08 10 18 | 42.2 | 96.4 | -3.8 | | -43.1 | 34 | 1623 | 12 45 40 |
| 12 58 00 | --- | 08 22 40 | 44.0 | 99.1 | -3.6 | | -42.8 | 740 | 1718 | 12 45 41 |
| 13 00 00 | J1203+4803 | 08 24 41 | 55.6 | 75.8 | -3.7 | | -60.4 | 58 | 1718 | 13 00 00 |
| 13 03 00 | =1200+483 | 08 27 41 | 56.1 | 76.3 | -3.6 | | -60.6 | 180 | 1741 | 13 00 01 |
| 13 04 00 | J1219+4829 | 08 28 41 | 54.2 | 73.5 | -3.9 | | -60.2 | 39 | 1741 | 13 04 00 |
| 13 05 00 | =1216+487 | 08 29 41 | 54.3 | 73.6 | -3.8 | | -60.3 | 60 | 1749 | 13 04 01 |
| 13 05 00 | SN2014BC | 08 29 41 | 53.7 | 75.4 | -3.8 | | -58.8 | -17 | 1749 | No stop |
| 13 08 30 | --- | 08 33 12 | 54.2 | 75.9 | -3.8 | | -59.1 | 193 | 1776 | 13 05 01 |
| 13 08 30 | J1219+4829 | 08 33 12 | 54.8 | 74.1 | -3.8 | | -60.5 | -17 | 1776 | No stop |
| 13 10 00 | =1216+487 | 08 34 42 | 55.0 | 74.4 | -3.8 | | -60.6 | 73 | 1787 | 13 08 31 |
| 13 10 00 | SN2014BC | 08 34 42 | 54.4 | 76.2 | -3.7 | | -59.2 | -17 | 1787 | No stop |
| 13 13 30 | --- | 08 38 13 | 55.0 | 76.7 | -3.7 | | -59.4 | 193 | 1814 | 13 10 01 |
| 13 14 00 | J1219+4829 | 08 38 43 | 55.6 | 74.9 | -3.7 | | -60.9 | 13 | 1814 | 13 14 00 |
| 13 15 00 | =1216+487 | 08 39 43 | 55.8 | 75.1 | -3.7 | | -61.0 | 60 | 1822 | 13 14 01 |
| 13 15 00 | SN2014BC | 08 39 43 | 55.2 | 76.9 | -3.7 | | -59.5 | -17 | 1822 | No stop |
| 13 18 30 | --- | 08 43 14 | 55.7 | 77.5 | -3.6 | | -59.7 | 193 | 1849 | 13 15 01 |
| 13 18 30 | J1219+4829 | 08 43 14 | 56.3 | 75.6 | -3.6 | | -61.2 | -17 | 1849 | No stop |
| 13 20 00 | =1216+487 | 08 44 44 | 56.5 | 75.8 | -3.6 | | -61.3 | 73 | 1860 | 13 18 31 |
| 13 20 00 | SN2014BC | 08 44 44 | 55.9 | 77.7 | -3.6 | | -59.8 | -17 | 1860 | No stop |
| 13 23 30 | --- | 08 48 14 | 56.4 | 78.2 | -3.5 | | -60.0 | 193 | 1887 | 13 20 01 |
| 13 24 00 | J1219+4829 | 08 48 45 | 57.1 | 76.4 | -3.5 | | -61.6 | 13 | 1887 | 13 24 00 |
| 13 25 00 | =1216+487 | 08 49 45 | 57.2 | 76.5 | -3.5 | | -61.6 | 60 | 1895 | 13 24 01 |

Schedule for TORUN (Code Tr ) Page 4

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 13 25 00 | SN2014BC | 08 49 45 | 56.6 | 78.5 | -3.5 | | -60.0 | -18 | 1895 | No stop |
| 13 28 30 | --- | 08 53 15 | 57.2 | 79.0 | -3.4 | | -60.2 | 192 | 1922 | 13 25 01 |
| 13 28 30 | J1219+4829 | 08 53 15 | 57.7 | 77.0 | -3.4 | | -61.9 | -17 | 1922 | No stop |
| 13 30 00 | =1216+487 | 08 54 45 | 57.9 | 77.2 | -3.4 | | -61.9 | 73 | 1933 | 13 28 31 |
| 13 30 00 | SN2014BC | 08 54 45 | 57.4 | 79.2 | -3.4 | | -60.3 | -18 | 1933 | No stop |
| 13 33 30 | --- | 08 58 16 | 57.9 | 79.8 | -3.4 | | -60.5 | 192 | 1960 | 13 30 01 |
| 13 34 00 | J1219+4829 | 08 58 46 | 58.5 | 77.8 | -3.4 | | -62.2 | 12 | 1960 | 13 34 00 |
| 13 35 00 | =1216+487 | 08 59 46 | 58.7 | 78.0 | -3.3 | | -62.3 | 60 | 1968 | 13 34 01 |
| 13 35 00 | SN2014BC | 08 59 46 | 58.1 | 80.0 | -3.3 | | -60.6 | -18 | 1968 | No stop |
| 13 38 30 | --- | 09 03 17 | 58.6 | 80.6 | -3.3 | | -60.7 | 192 | 1995 | 13 35 01 |
| 13 38 30 | J1219+4829 | 09 03 17 | 59.2 | 78.5 | -3.3 | | -62.5 | -18 | 1995 | No stop |
| 13 40 00 | =1216+487 | 09 04 47 | 59.4 | 78.7 | -3.3 | | -62.6 | 72 | 2006 | 13 38 31 |
| 13 40 00 | SN2014BC | 09 04 47 | 58.9 | 80.8 | -3.2 | | -60.8 | -18 | 2006 | No stop |
| 13 43 30 | --- | 09 08 18 | 59.4 | 81.4 | -3.2 | | -61.0 | 192 | 2033 | 13 40 01 |
| 13 44 00 | J1219+4829 | 09 08 48 | 60.0 | 79.3 | -3.2 | | -62.8 | 12 | 2033 | 13 44 00 |
| 13 45 00 | =1216+487 | 09 09 48 | 60.2 | 79.5 | -3.2 | | -62.8 | 60 | 2041 | 13 44 01 |
| 13 45 00 | SN2014BC | 09 09 48 | 59.6 | 81.6 | -3.2 | | -61.0 | -18 | 2041 | No stop |
| 13 48 30 | --- | 09 13 19 | 60.1 | 82.2 | -3.1 | | -61.2 | 192 | 2068 | 13 45 01 |
| 13 48 30 | J1219+4829 | 09 13 19 | 60.7 | 80.0 | -3.1 | | -63.0 | -18 | 2068 | No stop |
| 13 50 00 | =1216+487 | 09 14 49 | 60.9 | 80.3 | -3.1 | | -63.1 | 72 | 2079 | 13 48 31 |
| 13 50 00 | SN2014BC | 09 14 49 | 60.4 | 82.4 | -3.1 | | -61.2 | -18 | 2079 | No stop |
| 13 53 30 | --- | 09 18 19 | 60.9 | 83.0 | -3.0 | | -61.4 | 192 | 2106 | 13 50 01 |
| 13 54 00 | J1219+4829 | 09 18 49 | 61.5 | 80.9 | -3.0 | | -63.3 | 12 | 2106 | 13 54 00 |
| 13 55 00 | =1216+487 | 09 19 50 | 61.6 | 81.0 | -3.0 | | -63.4 | 60 | 2114 | 13 54 01 |
| 13 55 00 | SN2014BC | 09 19 50 | 61.1 | 83.3 | -3.0 | | -61.4 | -18 | 2114 | No stop |
| 13 58 30 | --- | 09 23 20 | 61.6 | 83.9 | -2.9 | | -61.5 | 192 | 2141 | 13 55 01 |
| 13 58 30 | J1219+4829 | 09 23 20 | 62.2 | 81.6 | -2.9 | | -63.5 | -18 | 2141 | No stop |
| 14 00 00 | =1216+487 | 09 24 50 | 62.4 | 81.8 | -2.9 | | -63.6 | 72 | 2153 | 13 58 31 |
| 14 00 00 | SN2014BC | 09 24 50 | 61.9 | 84.1 | -2.9 | | -61.6 | -19 | 2153 | No stop |
| 14 03 30 | --- | 09 28 21 | 62.4 | 84.7 | -2.9 | | -61.7 | 191 | 2179 | 14 00 01 |
| 14 04 00 | J1219+4829 | 09 28 51 | 63.0 | 82.5 | -2.8 | | -63.8 | 11 | 2179 | 14 04 00 |
| 14 05 00 | =1216+487 | 09 29 51 | 63.1 | 82.6 | -2.8 | | -63.8 | 60 | 2187 | 14 04 01 |

Schedule for TORUN (Code Tr ) Page 5

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Stop ParA | Early / Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 14 06 00 | J1203+4803 | 09 30 51 | 65.4 | 86.4 | -2.6 | | -63.5 | 38 | 2187 | 14 06 00 |
| 14 09 00 | =1200+483 | 09 33 52 | 65.9 | 86.9 | -2.5 | | -63.6 | 180 | 2210 | 14 06 01 |
| 14 10 00 | J1219+4829 | 09 34 52 | 63.9 | 83.5 | -2.7 | | -64.0 | 38 | 2210 | 14 10 00 |
| 14 11 00 | =1216+487 | 09 35 52 | 64.0 | 83.6 | -2.7 | | -64.1 | 60 | 2218 | 14 10 01 |
| 14 11 00 | SN2014BC | 09 35 52 | 63.5 | 86.1 | -2.7 | | -61.9 | -19 | 2218 | No stop |
| 14 14 30 | --- | 09 39 23 | 64.0 | 86.7 | -2.7 | | -62.0 | 191 | 2245 | 14 11 01 |
| 14 14 30 | J1219+4829 | 09 39 23 | 64.5 | 84.2 | -2.7 | | -64.2 | -19 | 2245 | No stop |
| 14 16 00 | =1216+487 | 09 40 53 | 64.8 | 84.5 | -2.6 | | -64.2 | 71 | 2256 | 14 14 31 |
| 14 16 00 | SN2014BC | 09 40 53 | 64.3 | 87.0 | -2.6 | | -62.0 | -19 | 2256 | No stop |
| 14 19 30 | --- | 09 44 24 | 64.8 | 87.6 | -2.6 | | -62.1 | 191 | 2283 | 14 16 01 |
| 14 20 00 | J1219+4829 | 09 44 54 | 65.4 | 85.2 | -2.6 | | -64.4 | 11 | 2283 | 14 20 00 |
| 14 21 00 | =1216+487 | 09 45 54 | 65.5 | 85.3 | -2.6 | | -64.4 | 60 | 2291 | 14 20 01 |
| 14 21 00 | SN2014BC | 09 45 54 | 65.0 | 87.9 | -2.6 | | -62.1 | -19 | 2291 | No stop |
| 14 24 30 | --- | 09 49 24 | 65.5 | 88.6 | -2.5 | | -62.1 | 191 | 2318 | 14 21 01 |
| 14 24 30 | J1219+4829 | 09 49 24 | 66.0 | 85.9 | -2.5 | | -64.5 | -19 | 2318 | No stop |
| 14 26 00 | =1216+487 | 09 50 55 | 66.3 | 86.2 | -2.5 | | -64.5 | 71 | 2329 | 14 24 31 |
| 14 26 00 | SN2014BC | 09 50 55 | 65.8 | 88.9 | -2.5 | | -62.1 | -20 | 2329 | No stop |
| 14 29 30 | --- | 09 54 25 | 66.3 | 89.5 | -2.4 | | -62.2 | 190 | 2356 | 14 26 01 |
| 14 30 00 | J1219+4829 | 09 54 55 | 66.9 | 86.9 | -2.4 | | -64.6 | 10 | 2356 | 14 30 00 |
| 14 31 00 | =1216+487 | 09 55 56 | 67.0 | 87.1 | -2.4 | | -64.6 | 60 | 2364 | 14 30 01 |
| 14 31 00 | SN2014BC | 09 55 56 | 66.5 | 89.8 | -2.4 | | -62.2 | -20 | 2364 | No stop |
| 14 34 30 | --- | 09 59 26 | 67.0 | 90.5 | -2.3 | | -62.2 | 190 | 2391 | 14 31 01 |
| 14 34 30 | J1219+4829 | 09 59 26 | 67.6 | 87.7 | -2.3 | | -64.7 | -20 | 2391 | No stop |
| 14 36 00 | =1216+487 | 10 00 56 | 67.8 | 88.0 | -2.3 | | -64.7 | 70 | 2403 | 14 34 31 |
| 14 36 00 | SN2014BC | 10 00 56 | 67.3 | 90.9 | -2.3 | | -62.1 | -20 | 2403 | No stop |
| 14 39 30 | --- | 10 04 27 | 67.8 | 91.6 | -2.3 | | -62.1 | 190 | 2429 | 14 36 01 |
| 14 40 00 | J1219+4829 | 10 04 57 | 68.4 | 88.8 | -2.2 | | -64.8 | 10 | 2429 | 14 40 00 |
| 14 41 00 | =1216+487 | 10 05 57 | 68.5 | 89.0 | -2.2 | | -64.8 | 60 | 2437 | 14 40 01 |
| 14 41 00 | SN2014BC | 10 05 57 | 68.0 | 91.9 | -2.2 | | -62.1 | -20 | 2437 | No stop |
| 14 44 30 | --- | 10 09 28 | 68.5 | 92.7 | -2.2 | | -62.0 | 190 | 2464 | 14 41 01 |
| 14 44 30 | J1219+4829 | 10 09 28 | 69.1 | 89.7 | -2.2 | | -64.8 | -20 | 2464 | No stop |
| 14 46 00 | =1216+487 | 10 10 58 | 69.3 | 90.0 | -2.1 | | -64.8 | 70 | 2476 | 14 44 31 |

Schedule for TORUN (Code Tr ) Page 6

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 14 46 00 | SN2014BC | 10 10 58 | 68.8 | 93.0 | -2.1 | | -62.0 | -21 | 2476 | No stop |
| 14 49 30 | --- | 10 14 29 | 69.3 | 93.8 | -2.1 | | -61.9 | 189 | 2503 | 14 46 01 |
| 14 50 00 | J1219+4829 | 10 14 59 | 69.9 | 90.8 | -2.1 | | -64.8 | 9 | 2503 | 14 50 00 |
| 14 51 00 | =1216+487 | 10 15 59 | 70.0 | 91.0 | -2.1 | | -64.8 | 60 | 2510 | 14 50 01 |
| 14 51 00 | SN2014BC | 10 15 59 | 69.5 | 94.1 | -2.1 | | -61.9 | -21 | 2510 | No stop |
| 14 54 30 | --- | 10 19 29 | 70.0 | 94.9 | -2.0 | | -61.8 | 189 | 2537 | 14 51 01 |
| 14 54 30 | J1219+4829 | 10 19 29 | 70.6 | 91.7 | -2.0 | | -64.7 | -21 | 2537 | No stop |
| 14 56 00 | =1216+487 | 10 21 00 | 70.8 | 92.0 | -2.0 | | -64.7 | 69 | 2549 | 14 54 31 |
| 14 56 00 | SN2014BC | 10 21 00 | 70.3 | 95.3 | -2.0 | | -61.7 | -21 | 2549 | No stop |
| 14 59 30 | --- | 10 24 30 | 70.8 | 96.1 | -1.9 | | -61.5 | 189 | 2576 | 14 56 01 |
| 15 00 00 | J1219+4829 | 10 25 00 | 71.4 | 92.9 | -1.9 | | -64.6 | 9 | 2576 | 15 00 00 |
| 15 01 00 | =1216+487 | 10 26 00 | 71.5 | 93.1 | -1.9 | | -64.6 | 60 | 2583 | 15 00 01 |
| 15 01 00 | SN2014BC | 10 26 00 | 71.0 | 96.5 | -1.9 | | -61.5 | -22 | 2583 | No stop |
| 15 04 30 | --- | 10 29 31 | 71.5 | 97.4 | -1.8 | | -61.3 | 188 | 2610 | 15 01 01 |
| 15 04 30 | J1219+4829 | 10 29 31 | 72.1 | 93.9 | -1.8 | | -64.5 | -21 | 2610 | No stop |
| 15 06 00 | =1216+487 | 10 31 01 | 72.3 | 94.3 | -1.8 | | -64.5 | 69 | 2622 | 15 04 31 |
| 15 06 00 | SN2014BC | 10 31 01 | 71.8 | 97.8 | -1.8 | | -61.2 | -22 | 2622 | No stop |
| 15 09 30 | --- | 10 34 32 | 72.3 | 98.7 | -1.8 | | -60.9 | 188 | 2649 | 15 06 01 |
| 15 10 00 | J1219+4829 | 10 35 02 | 72.9 | 95.3 | -1.7 | | -64.3 | 8 | 2649 | 15 10 00 |
| 15 11 00 | =1216+487 | 10 36 02 | 73.0 | 95.5 | -1.7 | | -64.2 | 60 | 2656 | 15 10 01 |
| 15 12 00 | J1203+4803 | 10 37 02 | 75.3 | 101.6 | -1.5 | | -61.5 | 33 | 2656 | 15 12 00 |
| 15 15 00 | =1200+483 | 10 40 03 | 75.7 | 102.5 | -1.4 | | -61.1 | 180 | 2679 | 15 12 01 |
| 15 16 00 | J1219+4829 | 10 41 03 | 73.8 | 96.8 | -1.6 | | -64.0 | 33 | 2679 | 15 16 00 |
| 15 17 00 | =1216+487 | 10 42 03 | 73.9 | 97.0 | -1.6 | | -63.9 | 60 | 2687 | 15 16 01 |
| 15 17 00 | SN2014BC | 10 42 03 | 73.4 | 100.8 | -1.6 | | -60.3 | -23 | 2687 | No stop |
| 15 20 30 | --- | 10 45 34 | 73.9 | 101.9 | -1.6 | | -59.9 | 187 | 2714 | 15 17 01 |
| 15 20 30 | J1219+4829 | 10 45 34 | 74.5 | 98.0 | -1.6 | | -63.6 | -23 | 2714 | No stop |
| 15 22 00 | =1216+487 | 10 47 04 | 74.7 | 98.4 | -1.5 | | -63.5 | 67 | 2726 | 15 20 31 |
| 15 22 00 | SN2014BC | 10 47 04 | 74.1 | 102.4 | -1.5 | | -59.7 | -23 | 2726 | No stop |
| 15 25 30 | --- | 10 50 34 | 74.7 | 103.5 | -1.5 | | -59.3 | 187 | 2753 | 15 22 01 |
| 15 26 00 | J1219+4829 | 10 51 05 | 75.3 | 99.6 | -1.5 | | -63.2 | 7 | 2753 | 15 26 00 |
| 15 27 00 | =1216+487 | 10 52 05 | 75.4 | 99.9 | -1.5 | | -63.1 | 60 | 2760 | 15 26 01 |
| 15 27 00 | SN2014BC | 10 52 05 | 74.9 | 104.0 | -1.5 | | -59.1 | -23 | 2760 | No stop |
| 15 30 30 | --- | 10 55 35 | 75.4 | 105.2 | -1.4 | | -58.6 | 187 | 2787 | 15 27 01 |

Schedule for TORUN (Code Tr ) Page 7

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 15 30 30 | J1219+4829 | 10 55 35 | 75.9 | 100.9 | -1.4 | | -62.7 | -23 | 2787 | No stop |
| 15 32 00 | =1216+487 | 10 57 06 | 76.2 | 101.4 | -1.4 | | -62.5 | 67 | 2799 | 15 30 31 |
| 15 32 00 | SN2014BC | 10 57 06 | 75.6 | 105.7 | -1.4 | | -58.3 | -24 | 2799 | No stop |
| 15 35 30 | --- | 11 00 36 | 76.1 | 107.0 | -1.3 | | -57.7 | 186 | 2826 | 15 32 01 |
| 15 36 00 | J1219+4829 | 11 01 06 | 76.8 | 102.7 | -1.3 | | -62.0 | 6 | 2826 | 15 36 00 |
| 15 37 00 | =1216+487 | 11 02 06 | 76.9 | 103.1 | -1.3 | | -61.8 | 60 | 2833 | 15 36 01 |
| 15 37 00 | SN2014BC | 11 02 06 | 76.3 | 107.6 | -1.3 | | -57.4 | -24 | 2833 | No stop |
| 15 40 30 | --- | 11 05 37 | 76.8 | 109.0 | -1.2 | | -56.7 | 186 | 2860 | 15 37 01 |
| 15 40 30 | J1219+4829 | 11 05 37 | 77.4 | 104.3 | -1.2 | | -61.2 | -24 | 2860 | No stop |
| 15 42 00 | =1216+487 | 11 07 07 | 77.6 | 104.9 | -1.2 | | -61.0 | 66 | 2872 | 15 40 31 |
| 15 42 00 | SN2014BC | 11 07 07 | 77.0 | 109.6 | -1.2 | | -56.4 | -25 | 2872 | No stop |
| 15 45 30 | --- | 11 10 38 | 77.5 | 111.1 | -1.2 | | -55.6 | 185 | 2899 | 15 42 01 |
| 15 46 00 | J1219+4829 | 11 11 08 | 78.2 | 106.4 | -1.1 | | -60.2 | 6 | 2899 | 15 46 00 |
| 15 47 00 | =1216+487 | 11 12 08 | 78.4 | 106.9 | -1.1 | | -60.0 | 60 | 2906 | 15 46 01 |
| 15 47 00 | SN2014BC | 11 12 08 | 77.7 | 111.8 | -1.1 | | -55.2 | -25 | 2906 | No stop |
| 15 50 30 | --- | 11 15 39 | 78.2 | 113.4 | -1.1 | | -54.2 | 185 | 2933 | 15 47 01 |
| 15 50 30 | J1219+4829 | 11 15 39 | 78.9 | 108.3 | -1.1 | | -59.2 | -25 | 2933 | No stop |
| 15 52 00 | =1216+487 | 11 17 09 | 79.1 | 109.0 | -1.0 | | -58.8 | 65 | 2945 | 15 50 31 |
| 15 52 00 | SN2014BC | 11 17 09 | 78.4 | 114.2 | -1.0 | | -53.8 | -26 | 2945 | No stop |
| 15 55 30 | --- | 11 20 39 | 78.9 | 116.0 | -1.0 | | -52.6 | 184 | 2972 | 15 52 01 |
| 15 56 00 | J1219+4829 | 11 21 09 | 79.6 | 110.9 | -1.0 | | -57.7 | 5 | 2972 | 15 56 00 |
| 15 57 00 | =1216+487 | 11 22 10 | 79.8 | 111.4 | -1.0 | | -57.4 | 60 | 2979 | 15 56 01 |
| 15 57 00 | SN2014BC | 11 22 10 | 79.1 | 116.8 | -1.0 | | -52.1 | -26 | 2979 | No stop |
| 16 00 30 | --- | 11 25 40 | 79.6 | 118.8 | -0.9 | | -50.8 | 184 | 3006 | 15 57 01 |
| 16 00 30 | J1219+4829 | 11 25 40 | 80.3 | 113.2 | -0.9 | | -56.2 | -26 | 3006 | No stop |
| 16 02 00 | =1216+487 | 11 27 10 | 80.5 | 114.1 | -0.9 | | -55.7 | 64 | 3018 | 16 00 31 |
| 16 02 00 | SN2014BC | 11 27 10 | 79.8 | 119.7 | -0.9 | | -50.2 | -27 | 3018 | No stop |
| 16 05 30 | --- | 11 30 41 | 80.2 | 122.0 | -0.8 | | -48.6 | 183 | 3045 | 16 02 01 |
| 16 06 00 | J1219+4829 | 11 31 11 | 81.0 | 116.5 | -0.8 | | -54.1 | 4 | 3045 | 16 06 00 |
| 16 07 00 | =1216+487 | 11 32 11 | 81.2 | 117.1 | -0.8 | | -53.7 | 60 | 3053 | 16 06 01 |
| 16 07 00 | SN2014BC | 11 32 11 | 80.4 | 123.0 | -0.8 | | -47.9 | -27 | 3053 | No stop |
| 16 10 30 | --- | 11 35 42 | 80.8 | 125.5 | -0.7 | | -46.1 | 183 | 3079 | 16 07 01 |
| 16 10 30 | J1219+4829 | 11 35 42 | 81.6 | 119.4 | -0.7 | | -52.0 | -27 | 3079 | No stop |
| 16 12 00 | =1216+487 | 11 37 12 | 81.8 | 120.5 | -0.7 | | -51.2 | 63 | 3091 | 16 10 31 |

Schedule for TORUN (Code Tr ) Page 8

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 16 12 00 | SN2014BC | 11 37 12 | 81.0 | 126.6 | -0.7 | | -45.2 | -28 | 3091 | No stop |
| 16 15 30 | --- | 11 40 43 | 81.4 | 129.4 | -0.6 | | -43.1 | 182 | 3118 | 16 12 01 |
| 16 16 00 | J1219+4829 | 11 41 13 | 82.3 | 123.6 | -0.6 | | -48.9 | 3 | 3118 | 16 16 00 |
| 16 17 00 | =1216+487 | 11 42 13 | 82.4 | 124.4 | -0.6 | | -48.3 | 60 | 3126 | 16 16 01 |
| 16 18 00 | J1203+4803 | 11 43 13 | 83.9 | 144.8 | -0.4 | | -31.1 | 5 | 3126 | 16 18 00 |
| 16 21 00 | =1200+483 | 11 46 14 | 84.1 | 149.0 | -0.3 | | -27.5 | 180 | 3149 | 16 18 01 |
| 16 22 00 | J1219+4829 | 11 47 14 | 83.1 | 129.0 | -0.5 | | -44.7 | 5 | 3149 | 16 22 00 |
| 16 23 00 | =1216+487 | 11 48 14 | 83.2 | 130.0 | -0.5 | | -43.9 | 60 | 3156 | 16 22 01 |
| 16 23 00 | SN2014BC | 11 48 14 | 82.3 | 136.3 | -0.5 | | -37.7 | -28 | 3156 | No stop |
| 16 26 30 | --- | 11 51 44 | 82.6 | 140.0 | -0.5 | | -34.7 | 182 | 3183 | 16 23 01 |
| 16 26 30 | J1219+4829 | 11 51 44 | 83.6 | 133.7 | -0.5 | | -40.9 | -27 | 3183 | No stop |
| 16 28 00 | =1216+487 | 11 53 15 | 83.7 | 135.4 | -0.4 | | -39.4 | 63 | 3195 | 16 26 31 |
| 16 28 00 | SN2014BC | 11 53 15 | 82.8 | 141.6 | -0.4 | | -33.3 | -28 | 3195 | No stop |
| 16 31 30 | --- | 11 56 45 | 83.1 | 145.7 | -0.4 | | -29.9 | 182 | 3222 | 16 28 01 |
| 16 32 00 | J1219+4829 | 11 57 15 | 84.1 | 140.4 | -0.4 | | -35.2 | 4 | 3222 | 16 32 00 |
| 16 33 00 | =1216+487 | 11 58 16 | 84.2 | 141.8 | -0.4 | | -34.0 | 60 | 3229 | 16 32 01 |
| 16 33 00 | SN2014BC | 11 58 16 | 83.2 | 147.6 | -0.4 | | -28.3 | -28 | 3229 | No stop |
| 16 36 30 | --- | 12 01 46 | 83.5 | 152.2 | -0.3 | | -24.3 | 182 | 3256 | 16 33 01 |
| 16 36 30 | J1219+4829 | 12 01 46 | 84.5 | 146.8 | -0.3 | | -29.7 | -25 | 3256 | No stop |
| 16 38 00 | =1216+487 | 12 03 16 | 84.6 | 149.1 | -0.3 | | -27.7 | 65 | 3268 | 16 36 31 |
| 16 38 00 | SN2014BC | 12 03 16 | 83.6 | 154.3 | -0.3 | | -22.6 | -26 | 3268 | No stop |
| 16 41 30 | --- | 12 06 47 | 83.8 | 159.4 | -0.2 | | -18.2 | 184 | 3295 | 16 38 01 |
| 16 42 00 | J1219+4829 | 12 07 17 | 84.9 | 155.8 | -0.2 | | -21.8 | 7 | 3295 | 16 42 00 |
| 16 43 00 | =1216+487 | 12 08 17 | 85.0 | 157.6 | -0.2 | | -20.2 | 60 | 3303 | 16 42 01 |
| 16 43 00 | SN2014BC | 12 08 17 | 83.9 | 161.6 | -0.2 | | -16.2 | -24 | 3303 | No stop |
| 16 46 30 | --- | 12 11 48 | 84.0 | 167.1 | -0.1 | | -11.4 | 186 | 3329 | 16 43 01 |
| 16 46 30 | J1219+4829 | 12 11 48 | 85.2 | 164.0 | -0.1 | | -14.4 | -19 | 3329 | No stop |
| 16 48 00 | =1216+487 | 12 13 18 | 85.2 | 166.9 | -0.1 | | -11.8 | 71 | 3341 | 16 46 31 |
| 16 48 00 | SN2014BC | 12 13 18 | 84.0 | 169.5 | -0.1 | | -9.3 | -20 | 3341 | No stop |
| 16 51 30 | --- | 12 16 49 | 84.1 | 175.3 | -0.0 | | -4.2 | 190 | 3368 | 16 48 01 |
| 16 52 00 | J1219+4829 | 12 17 19 | 85.3 | 174.9 | -0.0 | | -4.6 | 12 | 3368 | 16 52 00 |
| 16 53 00 | =1216+487 | 12 18 19 | 85.3 | 176.9 | -0.0 | | -2.8 | 60 | 3376 | 16 52 01 |
| 16 53 00 | SN2014BC | 12 18 19 | 84.1 | 177.7 | -0.0 | | -2.0 | -18 | 3376 | No stop |
| 16 56 30 | --- | 12 21 49 | 84.1 | 183.6 | 0.0 | | 3.2 | 192 | 3403 | 16 53 01 |

Schedule for TORUN (Code Tr ) Page 9

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 16 56 30 | J1219+4829 | 12 21 49 | 85.3 | 184.1 | 0.0 | | 3.7 | -18 | 3403 | No stop |
| 16 58 00 | =1216+487 | 12 23 20 | 85.3 | 187.1 | 0.1 | | 6.4 | 72 | 3414 | 16 56 31 |
| 16 58 00 | SN2014BC | 12 23 20 | 84.1 | 186.1 | 0.1 | | 5.3 | -18 | 3414 | No stop |
| 17 01 30 | --- | 12 26 50 | 84.0 | 191.8 | 0.1 | | 10.4 | 192 | 3441 | 16 58 01 |
| 17 02 00 | J1219+4829 | 12 27 20 | 85.2 | 195.0 | 0.1 | | 13.6 | 10 | 3441 | 17 02 00 |
| 17 03 00 | =1216+487 | 12 28 20 | 85.1 | 196.9 | 0.1 | | 15.3 | 60 | 3449 | 17 02 01 |
| 17 03 00 | SN2014BC | 12 28 20 | 84.0 | 194.1 | 0.1 | | 12.5 | -19 | 3449 | No stop |
| 17 06 30 | --- | 12 31 51 | 83.8 | 199.6 | 0.2 | | 17.2 | 191 | 3476 | 17 03 01 |
| 17 06 30 | J1219+4829 | 12 31 51 | 85.0 | 203.3 | 0.2 | | 21.0 | -24 | 3476 | No stop |
| 17 08 00 | =1216+487 | 12 33 21 | 84.9 | 205.9 | 0.2 | | 23.3 | 66 | 3487 | 17 06 31 |
| 17 08 00 | SN2014BC | 12 33 21 | 83.7 | 201.8 | 0.2 | | 19.2 | -22 | 3487 | No stop |
| 17 11 30 | --- | 12 36 52 | 83.5 | 206.8 | 0.3 | | 23.5 | 188 | 3514 | 17 08 01 |
| 17 12 00 | J1219+4829 | 12 37 22 | 84.6 | 212.4 | 0.3 | | 29.0 | 4 | 3514 | 17 12 00 |
| 17 13 00 | =1216+487 | 12 38 22 | 84.5 | 213.9 | 0.3 | | 30.3 | 60 | 3522 | 17 12 01 |
| 17 13 00 | SN2014BC | 12 38 22 | 83.4 | 208.9 | 0.3 | | 25.3 | -24 | 3522 | No stop |
| 17 16 30 | --- | 12 41 53 | 83.1 | 213.4 | 0.4 | | 29.1 | 186 | 3549 | 17 13 01 |
| 17 16 30 | J1219+4829 | 12 41 53 | 84.2 | 218.9 | 0.4 | | 34.6 | -27 | 3549 | No stop |
| 17 18 00 | =1216+487 | 12 43 23 | 84.0 | 220.9 | 0.4 | | 36.3 | 63 | 3560 | 17 16 31 |
| 17 18 00 | SN2014BC | 12 43 23 | 83.0 | 215.2 | 0.4 | | 30.7 | -25 | 3560 | No stop |
| 17 21 30 | --- | 12 46 54 | 82.7 | 219.3 | 0.5 | | 34.0 | 185 | 3587 | 17 18 01 |
| 17 22 00 | J1219+4829 | 12 47 24 | 83.6 | 225.7 | 0.5 | | 40.4 | 2 | 3587 | 17 22 00 |
| 17 23 00 | =1216+487 | 12 48 24 | 83.5 | 226.9 | 0.5 | | 41.3 | 60 | 3595 | 17 22 01 |
| 17 24 00 | J1203+4803 | 12 49 24 | 81.2 | 239.0 | 0.8 | | 50.2 | 21 | 3595 | 17 24 00 |
| 17 27 00 | =1200+483 | 12 52 24 | 80.8 | 241.0 | 0.8 | | 51.7 | 180 | 3618 | 17 24 01 |
| 17 28 00 | J1219+4829 | 12 53 25 | 82.9 | 232.0 | 0.6 | | 45.5 | 26 | 3618 | 17 28 00 |
| 17 29 00 | =1216+487 | 12 54 25 | 82.8 | 232.9 | 0.6 | | 46.2 | 60 | 3626 | 17 28 01 |
| 17 29 00 | SN2014BC | 12 54 25 | 81.9 | 226.9 | 0.6 | | 40.2 | -26 | 3626 | No stop |
| 17 32 30 | --- | 12 57 55 | 81.5 | 230.0 | 0.6 | | 42.6 | 184 | 3653 | 17 29 01 |
| 17 32 30 | J1219+4829 | 12 57 55 | 82.4 | 236.0 | 0.6 | | 48.6 | -28 | 3653 | No stop |
| 17 34 00 | =1216+487 | 12 59 26 | 82.2 | 237.2 | 0.7 | | 49.5 | 62 | 3664 | 17 32 31 |
| 17 34 00 | SN2014BC | 12 59 26 | 81.4 | 231.2 | 0.7 | | 43.6 | -26 | 3664 | No stop |
| 17 37 30 | --- | 13 02 56 | 80.9 | 234.0 | 0.7 | | 45.7 | 184 | 3691 | 17 34 01 |
| 17 38 00 | J1219+4829 | 13 03 26 | 81.7 | 240.2 | 0.7 | | 51.7 | 3 | 3691 | 17 38 00 |
| 17 39 00 | =1216+487 | 13 04 26 | 81.6 | 240.9 | 0.7 | | 52.2 | 60 | 3699 | 17 38 01 |

Schedule for TORUN (Code Tr ) Page 11

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Start HA | Start UP | Start ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 17 39 00 | SN2014BC | 13 04 26 | 80.8 | 235.1 | 0.7 | | 46.5 | -26 | 3699 | No stop |
| 17 42 30 | --- | 13 07 57 | 80.3 | 237.6 | 0.8 | | 48.3 | 184 | 3726 | 17 39 01 |
| 17 42 30 | J1219+4829 | 13 07 57 | 81.1 | 243.2 | 0.8 | | 53.9 | -27 | 3726 | No stop |
| 17 44 00 | =1216+487 | 13 09 27 | 80.9 | 244.2 | 0.8 | | 54.5 | 63 | 3737 | 17 42 31 |
| 17 44 00 | SN2014BC | 13 09 27 | 80.1 | 238.6 | 0.8 | | 49.0 | -26 | 3737 | No stop |
| 17 47 30 | --- | 13 12 58 | 79.7 | 240.7 | 0.9 | | 50.5 | 184 | 3764 | 17 44 01 |
| 17 48 00 | J1219+4829 | 13 13 28 | 80.3 | 246.5 | 0.9 | | 56.1 | 4 | 3764 | 17 48 00 |
| 17 49 00 | =1216+487 | 13 14 28 | 80.2 | 247.0 | 0.9 | | 56.4 | 60 | 3772 | 17 48 01 |
| 17 49 00 | SN2014BC | 13 14 28 | 79.5 | 241.6 | 0.9 | | 51.1 | -25 | 3772 | No stop |
| 17 52 30 | --- | 13 17 59 | 79.0 | 243.6 | 1.0 | | 52.4 | 185 | 3799 | 17 49 01 |
| 17 52 30 | J1219+4829 | 13 17 59 | 79.7 | 248.8 | 1.0 | | 57.5 | -26 | 3799 | No stop |
| 17 54 00 | =1216+487 | 13 19 29 | 79.5 | 249.6 | 1.0 | | 58.0 | 64 | 3810 | 17 52 31 |
| 17 54 00 | SN2014BC | 13 19 29 | 78.8 | 244.4 | 1.0 | | 52.9 | -25 | 3810 | No stop |
| 17 57 30 | --- | 13 22 59 | 78.3 | 246.2 | 1.1 | | 54.0 | 185 | 3837 | 17 54 01 |
| 17 58 00 | J1219+4829 | 13 23 30 | 78.9 | 251.4 | 1.1 | | 59.1 | 5 | 3837 | 17 58 00 |
| 17 59 00 | =1216+487 | 13 24 30 | 78.8 | 251.9 | 1.1 | | 59.3 | 60 | 3845 | 17 58 01 |
| 17 59 00 | SN2014BC | 13 24 30 | 78.1 | 246.9 | 1.1 | | 54.4 | -25 | 3845 | No stop |
| 18 02 30 | --- | 13 28 00 | 77.6 | 248.6 | 1.1 | | 55.4 | 185 | 3872 | 17 59 01 |
| 18 02 30 | J1219+4829 | 13 28 00 | 78.3 | 253.4 | 1.1 | | 60.1 | -25 | 3872 | No stop |
| 18 04 00 | =1216+487 | 13 29 31 | 78.1 | 254.0 | 1.2 | | 60.4 | 65 | 3883 | 18 02 31 |
| 18 04 00 | SN2014BC | 13 29 31 | 77.4 | 249.2 | 1.2 | | 55.8 | -24 | 3883 | No stop |
| 18 07 30 | --- | 13 33 01 | 76.9 | 250.7 | 1.2 | | 56.6 | 186 | 3910 | 18 04 01 |
| 18 08 00 | J1219+4829 | 13 33 31 | 77.5 | 255.5 | 1.2 | | 61.2 | 6 | 3910 | 18 08 00 |
| 18 09 00 | =1216+487 | 13 34 31 | 77.3 | 255.9 | 1.2 | | 61.3 | 60 | 3918 | 18 08 01 |
| 18 09 00 | SN2014BC | 13 34 31 | 76.7 | 251.3 | 1.2 | | 56.9 | -24 | 3918 | No stop |
| 18 12 30 | --- | 13 38 02 | 76.2 | 252.7 | 1.3 | | 57.6 | 186 | 3945 | 18 09 01 |
| 18 12 30 | J1219+4829 | 13 38 02 | 76.8 | 257.1 | 1.3 | | 61.9 | -24 | 3945 | No stop |
| 18 14 00 | =1216+487 | 13 39 32 | 76.6 | 257.6 | 1.3 | | 62.1 | 66 | 3956 | 18 12 31 |
| 18 14 00 | SN2014BC | 13 39 32 | 76.0 | 253.3 | 1.3 | | 57.9 | -23 | 3956 | No stop |
| 18 17 30 | --- | 13 43 03 | 75.5 | 254.6 | 1.4 | | 58.5 | 187 | 3983 | 18 14 01 |
| 18 18 00 | J1219+4829 | 13 43 33 | 76.0 | 258.9 | 1.4 | | 62.6 | 6 | 3983 | 18 18 00 |
| 18 19 00 | =1216+487 | 13 44 33 | 75.9 | 259.2 | 1.4 | | 62.7 | 60 | 3991 | 18 18 01 |
| 18 19 00 | SN2014BC | 13 44 33 | 75.3 | 255.1 | 1.4 | | 58.7 | -23 | 3991 | No stop |
| 18 22 30 | --- | 13 48 04 | 74.8 | 256.3 | 1.5 | | 59.2 | 187 | 4018 | 18 19 01 |

Schedule for TORUN (Code Tr ) Page 12

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 18 22 30 | J1219+4829 | 13 48 04 | 75.4 | 260.3 | 1.5 | | 63.1 | -23 | 4018 | No stop |
| 18 24 00 | =1216+487 | 13 49 34 | 75.1 | 260.7 | 1.5 | | 63.3 | 67 | 4029 | 18 22 31 |
| 18 24 00 | SN2014BC | 13 49 34 | 74.5 | 256.8 | 1.5 | | 59.4 | -23 | 4029 | No stop |
| 18 27 30 | --- | 13 53 04 | 74.0 | 257.9 | 1.6 | | 59.8 | 187 | 4056 | 18 24 01 |
| 18 28 00 | J1219+4829 | 13 53 34 | 74.5 | 261.9 | 1.6 | | 63.6 | 7 | 4056 | 18 28 00 |
| 18 29 00 | =1216+487 | 13 54 35 | 74.4 | 262.2 | 1.6 | | 63.7 | 60 | 4064 | 18 28 01 |
| 18 29 00 | SN2014BC | 13 54 35 | 73.8 | 258.3 | 1.6 | | 60.0 | -22 | 4064 | No stop |
| 18 32 30 | --- | 13 58 05 | 73.3 | 259.4 | 1.6 | | 60.4 | 188 | 4091 | 18 29 01 |
| 18 32 30 | J1219+4829 | 13 58 05 | 73.9 | 263.1 | 1.6 | | 63.9 | -22 | 4091 | No stop |
| 18 34 00 | =1216+487 | 13 59 35 | 73.6 | 263.5 | 1.7 | | 64.0 | 68 | 4103 | 18 32 31 |
| 18 34 00 | SN2014BC | 13 59 35 | 73.1 | 259.8 | 1.7 | | 60.5 | -22 | 4103 | No stop |
| 18 37 30 | --- | 14 03 06 | 72.5 | 260.8 | 1.7 | | 60.8 | 188 | 4129 | 18 34 01 |
| 18 38 00 | J1219+4829 | 14 03 36 | 73.0 | 264.5 | 1.7 | | 64.2 | 8 | 4129 | 18 38 00 |
| 18 39 00 | =1216+487 | 14 04 36 | 72.9 | 264.7 | 1.7 | | 64.3 | 60 | 4137 | 18 38 01 |
| 18 39 00 | SN2014BC | 14 04 36 | 72.3 | 261.2 | 1.7 | | 60.9 | -22 | 4137 | No stop |
| 18 42 30 | --- | 14 08 07 | 71.8 | 262.2 | 1.8 | | 61.2 | 188 | 4164 | 18 39 01 |
| 18 43 00 | J1219+4829 | 14 08 37 | 72.3 | 265.7 | 1.8 | | 64.5 | 8 | 4164 | 18 43 00 |
| 18 44 00 | =1216+487 | 14 09 37 | 72.1 | 265.9 | 1.8 | | 64.5 | 60 | 4172 | 18 43 01 |
| 18 44 00 | SN2014BC | 14 09 37 | 71.6 | 262.6 | 1.8 | | 61.3 | -21 | 4172 | No stop |
| 18 47 30 | --- | 14 13 08 | 71.1 | 263.4 | 1.9 | | 61.5 | 189 | 4199 | 18 44 01 |
| 18 48 00 | J1219+4829 | 14 13 38 | 71.5 | 266.9 | 1.9 | | 64.6 | 9 | 4199 | 18 48 00 |
| 18 51 00 | =1216+487 | 14 16 38 | 71.1 | 267.5 | 1.9 | | 64.7 | 180 | 4222 | 18 48 01 |
| 18 52 00 | J1203+4803 | 14 17 38 | 68.4 | 269.8 | 2.2 | | 63.8 | 36 | 4222 | 18 52 00 |
| 18 55 00 | =1200+483 | 14 20 39 | 68.0 | 270.4 | 2.3 | | 63.8 | 180 | 4245 | 18 52 01 |
| 19 00 00 | J1038+0512 | 14 25 40 | 23.7 | 245.1 | 3.8 | | 33.2 | 121 | 4245 | 19 00 00 |
| 19 02 00 | =1036+054 | 14 27 40 | 23.4 | 245.6 | 3.8 | | 33.3 | 120 | 4260 | 19 00 01 |
| 19 02 00 | J1035+0522 | 14 27 40 | 23.0 | 246.5 | 3.9 | | 33.6 | -14 | 4260 | No stop |
| 19 05 30 | --- | 14 31 11 | 22.5 | 247.3 | 3.9 | | 33.8 | 196 | 4287 | 19 02 01 |
| 19 06 00 | J1038+0512 | 14 31 41 | 22.8 | 246.5 | 3.9 | | 33.6 | 16 | 4287 | 19 06 00 |
| 19 07 00 | =1036+054 | 14 32 41 | 22.7 | 246.7 | 3.9 | | 33.6 | 60 | 4295 | 19 06 01 |
| 19 07 00 | RYSEX | 14 32 41 | 22.2 | 247.3 | 3.9 | | 33.8 | -13 | 4295 | No stop |
| 19 10 30 | --- | 14 36 11 | 21.8 | 248.0 | 4.0 | | 34.0 | 197 | 4322 | 19 07 01 |

Schedule for TORUN (Code Tr ) Page 13

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 19 10 30 | J1038+0512 | 14 36 11 | 22.2 | 247.5 | 3.9 | | 33.8 | -13 | 4322 | No stop |
| 19 12 00 | =1036+054 | 14 37 42 | 22.0 | 247.8 | 4.0 | | 33.9 | 77 | 4333 | 19 10 31 |
| 19 12 00 | RYSEX | 14 37 42 | 21.5 | 248.4 | 4.0 | | 34.1 | -13 | 4333 | No stop |
| 19 15 30 | --- | 14 41 12 | 21.1 | 249.2 | 4.1 | | 34.3 | 197 | 4360 | 19 12 01 |
| 19 16 00 | J1038+0512 | 14 41 42 | 21.4 | 248.7 | 4.0 | | 34.2 | 17 | 4360 | 19 16 00 |
| 19 17 00 | =1036+054 | 14 42 42 | 21.3 | 248.9 | 4.1 | | 34.2 | 60 | 4368 | 19 16 01 |
| 19 17 00 | RYSEX | 14 42 42 | 20.8 | 249.5 | 4.1 | | 34.4 | -13 | 4368 | No stop |
| 19 20 30 | --- | 14 46 13 | 20.4 | 250.3 | 4.2 | | 34.6 | 197 | 4395 | 19 17 01 |
| 19 20 30 | J1038+0512 | 14 46 13 | 20.8 | 249.7 | 4.1 | | 34.4 | -13 | 4395 | No stop |
| 19 22 00 | =1036+054 | 14 47 43 | 20.6 | 250.0 | 4.1 | | 34.5 | 77 | 4406 | 19 20 31 |
| 19 22 00 | RYSEX | 14 47 43 | 20.1 | 250.6 | 4.2 | | 34.6 | -13 | 4406 | No stop |
| 19 25 30 | --- | 14 51 14 | 19.6 | 251.4 | 4.2 | | 34.8 | 197 | 4433 | 19 22 01 |
| 19 26 00 | J1038+0512 | 14 51 44 | 20.0 | 250.9 | 4.2 | | 34.7 | 17 | 4433 | 19 26 00 |
| 19 27 00 | =1036+054 | 14 52 44 | 19.9 | 251.1 | 4.2 | | 34.8 | 60 | 4441 | 19 26 01 |
| 19 27 00 | RYSEX | 14 52 44 | 19.4 | 251.7 | 4.3 | | 34.9 | -13 | 4441 | No stop |
| 19 30 30 | --- | 14 56 15 | 18.9 | 252.4 | 4.3 | | 35.1 | 197 | 4468 | 19 27 01 |
| 19 30 30 | J1038+0512 | 14 56 15 | 19.4 | 251.9 | 4.3 | | 35.0 | -13 | 4468 | No stop |
| 19 32 00 | =1036+054 | 14 57 45 | 19.2 | 252.2 | 4.3 | | 35.0 | 77 | 4479 | 19 30 31 |
| 19 32 00 | RYSEX | 14 57 45 | 18.7 | 252.8 | 4.3 | | 35.2 | -13 | 4479 | No stop |
| 19 35 30 | --- | 15 01 16 | 18.2 | 253.5 | 4.4 | | 35.3 | 197 | 4506 | 19 32 01 |
| 19 36 00 | J1038+0512 | 15 01 46 | 18.6 | 253.1 | 4.4 | | 35.2 | 17 | 4506 | 19 36 00 |
| 19 37 00 | =1036+054 | 15 02 46 | 18.5 | 253.3 | 4.4 | | 35.3 | 60 | 4514 | 19 36 01 |
| 19 37 00 | J1035+0522 | 15 02 46 | 18.0 | 254.2 | 4.5 | | 35.5 | -14 | 4514 | No stop |
| 19 40 30 | --- | 15 06 16 | 17.5 | 255.0 | 4.5 | | 35.6 | 196 | 4541 | 19 37 01 |
| 19 41 00 | J1038+0512 | 15 06 46 | 17.9 | 254.2 | 4.5 | | 35.4 | 17 | 4541 | 19 41 00 |
| 19 42 00 | =1036+054 | 15 07 47 | 17.7 | 254.4 | 4.5 | | 35.5 | 60 | 4549 | 19 41 01 |
| 19 42 00 | RYSEX | 15 07 47 | 17.3 | 254.9 | 4.5 | | 35.6 | -13 | 4549 | No stop |
| 19 45 30 | --- | 15 11 17 | 16.8 | 255.6 | 4.6 | | 35.7 | 197 | 4576 | 19 42 01 |
| 19 45 30 | J1038+0512 | 15 11 17 | 17.2 | 255.1 | 4.5 | | 35.6 | -13 | 4576 | No stop |
| 19 47 00 | =1036+054 | 15 12 47 | 17.0 | 255.4 | 4.6 | | 35.7 | 77 | 4587 | 19 45 31 |
| 19 47 00 | RYSEX | 15 12 47 | 16.5 | 256.0 | 4.6 | | 35.8 | -13 | 4587 | No stop |
| 19 50 30 | --- | 15 16 18 | 16.0 | 256.7 | 4.7 | | 35.9 | 197 | 4614 | 19 47 01 |

Schedule for TORUN (Code Tr ) Page 14

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 19 51 00 | J1038+0512 | 15 16 48 | 16.4 | 256.3 | 4.6 | | 35.9 | 17 | 4614 | 19 51 00 |
| 19 52 00 | =1036+054 | 15 17 48 | 16.3 | 256.5 | 4.6 | | 35.9 | 60 | 4622 | 19 51 01 |
| 19 52 00 | RYSEX | 15 17 48 | 15.8 | 257.0 | 4.7 | | 36.0 | -13 | 4622 | No stop |
| 19 55 30 | --- | 15 21 19 | 15.3 | 257.7 | 4.7 | | 36.1 | 197 | 4649 | 19 52 01 |
| 19 55 30 | J1038+0512 | 15 21 19 | 15.8 | 257.2 | 4.7 | | 36.0 | -13 | 4649 | No stop |
| 19 57 00 | =1036+054 | 15 22 49 | 15.5 | 257.5 | 4.7 | | 36.1 | 77 | 4660 | 19 55 31 |
| 19 57 00 | RYSEX | 15 22 49 | 15.1 | 258.1 | 4.8 | | 36.1 | -13 | 4660 | No stop |
| 20 00 30 | --- | 15 26 20 | 14.6 | 258.8 | 4.8 | | 36.3 | 197 | 4687 | 19 57 01 |
| 20 01 00 | J1038+0512 | 15 26 50 | 15.0 | 258.4 | 4.8 | | 36.2 | 17 | 4687 | 20 01 00 |
| 20 02 00 | =1036+054 | 15 27 50 | 14.8 | 258.6 | 4.8 | | 36.2 | 60 | 4695 | 20 01 01 |
| 20 02 00 | RYSEX | 15 27 50 | 14.3 | 259.1 | 4.9 | | 36.3 | -13 | 4695 | No stop |
| 20 05 30 | --- | 15 31 20 | 13.8 | 259.8 | 4.9 | | 36.4 | 197 | 4722 | 20 02 01 |
| 20 05 30 | J1038+0512 | 15 31 20 | 14.3 | 259.3 | 4.9 | | 36.3 | -13 | 4722 | No stop |
| 20 07 00 | =1036+054 | 15 32 51 | 14.1 | 259.6 | 4.9 | | 36.4 | 77 | 4733 | 20 05 31 |
| 20 07 00 | RYSEX | 15 32 51 | 13.6 | 260.1 | 4.9 | | 36.4 | -13 | 4733 | No stop |
| 20 10 30 | --- | 15 36 21 | 13.1 | 260.9 | 5.0 | | 36.5 | 197 | 4760 | 20 07 01 |
| 20 11 00 | J1038+0512 | 15 36 51 | 13.5 | 260.4 | 5.0 | | 36.5 | 17 | 4760 | 20 11 00 |
| 20 12 00 | =1036+054 | 15 37 52 | 13.3 | 260.7 | 5.0 | | 36.5 | 60 | 4768 | 20 11 01 |
| 20 12 00 | J1035+0522 | 15 37 52 | 12.9 | 261.5 | 5.0 | | 36.6 | -14 | 4768 | No stop |
| 20 15 30 | --- | 15 41 22 | 12.4 | 262.3 | 5.1 | | 36.7 | 196 | 4795 | 20 12 01 |
| 20 16 00 | J1038+0512 | 15 41 52 | 12.7 | 261.5 | 5.0 | | 36.6 | 17 | 4795 | 20 16 00 |
| 20 17 00 | =1036+054 | 15 42 52 | 12.6 | 261.7 | 5.1 | | 36.6 | 60 | 4803 | 20 16 01 |
| 20 17 00 | RYSEX | 15 42 52 | 12.1 | 262.2 | 5.1 | | 36.7 | -13 | 4803 | No stop |
| 20 20 30 | --- | 15 46 23 | 11.6 | 262.9 | 5.2 | | 36.7 | 197 | 4829 | 20 17 01 |
| 20 20 30 | J1038+0512 | 15 46 23 | 12.1 | 262.4 | 5.1 | | 36.7 | -13 | 4829 | No stop |
| 20 22 00 | =1036+054 | 15 47 53 | 11.8 | 262.7 | 5.1 | | 36.7 | 77 | 4841 | 20 20 31 |
| 20 22 00 | RYSEX | 15 47 53 | 11.4 | 263.2 | 5.2 | | 36.8 | -13 | 4841 | No stop |
| 20 25 30 | --- | 15 51 24 | 10.8 | 263.9 | 5.2 | | 36.8 | 197 | 4868 | 20 22 01 |
| 20 26 00 | J1038+0512 | 15 51 54 | 11.2 | 263.5 | 5.2 | | 36.8 | 17 | 4868 | 20 26 00 |
| 20 27 00 | =1036+054 | 15 52 54 | 11.1 | 263.7 | 5.2 | | 36.8 | 60 | 4876 | 20 26 01 |
| 20 27 00 | RYSEX | 15 52 54 | 10.6 | 264.2 | 5.3 | | 36.9 | -13 | 4876 | No stop |
| 20 30 30 | --- | 15 56 25 | 10.1 | 264.9 | 5.3 | | 36.9 | 197 | 4903 | 20 27 01 |

Schedule for TORUN (Code Tr ) Page 15

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 20 30 30 | J1038+0512 | 15 56 25 | 10.6 | 264.4 | 5.3 | | 36.9 | -13 | 4903 | No stop |
| 20 32 00 | =1036+054 | 15 57 55 | 10.3 | 264.7 | 5.3 | | 36.9 | 77 | 4914 | 20 30 31 |
| 20 32 00 | RYSEX | 15 57 55 | 9.9 | 265.3 | 5.4 | | 36.9 | -13 | 4914 | No stop |
| 20 35 30 | --- | 16 01 25 | 9.3 | 266.0 | 5.4 | | 37.0 | 197 | 4941 | 20 32 01 |
| 20 36 00 | J1038+0512 | 16 01 55 | 9.7 | 265.6 | 5.4 | | 36.9 | 17 | 4941 | 20 36 00 |
| 20 37 00 | =1036+054 | 16 02 56 | 9.6 | 265.8 | 5.4 | | 37.0 | 60 | 4949 | 20 36 01 |
| 20 37 00 | RYSEX | 16 02 56 | 9.1 | 266.3 | 5.4 | | 37.0 | -13 | 4949 | No stop |
| 20 40 30 | --- | 16 06 26 | 8.6 | 267.0 | 5.5 | | 37.0 | 197 | 4976 | 20 37 01 |
| 20 40 30 | J1038+0512 | 16 06 26 | 9.1 | 266.5 | 5.4 | | 37.0 | -13 | 4976 | No stop |
| 20 42 00 | =1036+054 | 16 07 56 | 8.8 | 266.8 | 5.5 | | 37.0 | 77 | 4987 | 20 40 31 |
| 20 42 00 | RYSEX | 16 07 56 | 8.4 | 267.3 | 5.5 | | 37.0 | -13 | 4987 | No stop |
| 20 45 30 | --- | 16 11 27 | 7.8 | 268.0 | 5.6 | | 37.0 | 197 | 5014 | 20 42 01 |
| 20 46 00 | J1038+0512 | 16 11 57 | 8.2 | 267.6 | 5.5 | | 37.0 | 17 | 5014 | 20 46 00 |
| 20 47 00 | =1036+054 | 16 12 57 | 8.1 | 267.8 | 5.6 | | 37.0 | 60 | 5022 | 20 46 01 |
| 20 47 00 | J1035+0522 | 16 12 57 | 7.7 | 268.6 | 5.6 | | 37.1 | -13 | 5022 | No stop |
| 20 50 30 | --- | 16 16 28 | 7.1 | 269.3 | 5.7 | | 37.1 | 197 | 5049 | 20 47 01 |
| 20 51 00 | J1038+0512 | 16 16 58 | 7.5 | 268.6 | 5.6 | | 37.1 | 17 | 5049 | 20 51 00 |
| 20 52 00 | =1036+054 | 16 17 58 | 7.3 | 268.8 | 5.6 | | 37.1 | 60 | 5056 | 20 51 01 |
| 20 52 00 | RYSEX | 16 17 58 | 6.9 | 269.3 | 5.7 | | 37.1 | -13 | 5056 | No stop |
| 20 55 30 | --- | 16 21 29 | 6.3 | 270.0 | 5.7 | | 37.1 | 197 | 5083 | 20 52 01 |
| 20 55 30 | J1038+0512 | 16 21 29 | 6.8 | 269.5 | 5.7 | | 37.1 | -13 | 5083 | No stop |
| 20 57 00 | =1036+054 | 16 22 59 | 6.6 | 269.8 | 5.7 | | 37.1 | 77 | 5095 | 20 55 31 |
| 20 57 00 | RYSEX | 16 22 59 | 6.1 | 270.3 | 5.8 | | 37.1 | -13 | 5095 | No stop |
| 21 00 30 | --- | 16 26 30 | 5.6 | 271.0 | 5.8 | | 37.1 | 197 | 5122 | 20 57 01 |
| 21 00 30 | J1038+0512 | 16 26 30 | 6.1 | 270.5 | 5.8 | | 37.1 | -13 | 5122 | No stop |
| 21 02 00 | =1036+054 | 16 28 00 | 5.8 | 270.8 | 5.8 | | 37.1 | 77 | 5133 | 21 00 31 |
| 21 02 00 | J1035+0522 | 16 28 00 | 5.4 | 271.6 | 5.9 | | 37.1 | -13 | 5133 | No stop |
| 21 05 30 | --- | 16 31 30 | 4.9 | 272.3 | 5.9 | | 37.1 | 197 | 5160 | 21 02 01 |
| 21 06 00 | J1038+0512 | 16 32 00 | 5.2 | 271.6 | 5.9 | | 37.1 | 17 | 5160 | 21 06 00 |
| 21 07 30 | =1036+054 | 16 33 31 | 5.0 | 271.9 | 5.9 | | 37.1 | 90 | 5172 | 21 06 01 |

Schedule for TORUN (Code Tr ) Page 16

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| ---------- fringe finder ---------- | | | | | | | | | | |
| 21 11 10 | J1310+3220 | 16 37 11 | 48.0 | 261.4 | 3.4 | | 44.6 | 44 | 5172 | 21 11 10 |
| 21 17 10 | =1308+326 | 16 43 12 | 47.1 | 262.7 | 3.5 | | 44.8 | 360 | 5218 | 21 11 11 |
| 21 20 40 | J1455+2131 | 16 46 43 | 52.0 | 224.5 | 1.8 | | 26.9 | 117 | 5218 | 21 20 40 |
| 21 21 40 | =1453+217 | 16 47 43 | 51.9 | 224.8 | 1.9 | | 27.1 | 60 | 5226 | 21 20 41 |
| 21 22 00 | J1455+2131 | 16 48 03 | 51.8 | 224.9 | 1.9 | | 27.1 | 14 | 5226 | 21 22 00 |
| 21 23 30 | =1453+217 | 16 49 33 | 51.7 | 225.4 | 1.9 | | 27.4 | 90 | 5237 | 21 22 01 |
| 21 23 30 | J1504+2218 | 16 49 33 | 53.3 | 223.0 | 1.7 | | 26.3 | -20 | 5237 | No stop |
| 21 27 00 | --- | 16 53 04 | 52.9 | 224.2 | 1.8 | | 26.9 | 190 | 5264 | 21 23 31 |
| 21 27 30 | J1455+2131 | 16 53 34 | 51.2 | 226.8 | 2.0 | | 28.0 | 10 | 5264 | 21 27 30 |
| 21 28 30 | =1453+217 | 16 54 34 | 51.1 | 227.1 | 2.0 | | 28.2 | 60 | 5272 | 21 27 31 |
| 21 28 30 | TVLM513 | 16 54 34 | 52.9 | 226.2 | 1.9 | | 28.1 | -20 | 5272 | No stop |
| 21 32 00 | --- | 16 58 05 | 52.5 | 227.4 | 1.9 | | 28.6 | 190 | 5299 | 21 28 31 |
| 21 32 00 | J1455+2131 | 16 58 05 | 50.7 | 228.2 | 2.0 | | 28.8 | -20 | 5299 | No stop |
| 21 33 30 | =1453+217 | 16 59 35 | 50.6 | 228.7 | 2.1 | | 29.0 | 70 | 5310 | 21 32 01 |
| 21 33 30 | TVLM513 | 16 59 35 | 52.3 | 227.9 | 2.0 | | 28.9 | -20 | 5310 | No stop |
| 21 37 00 | --- | 17 03 05 | 52.0 | 229.1 | 2.0 | | 29.5 | 190 | 5337 | 21 33 31 |
| 21 37 30 | J1455+2131 | 17 03 36 | 50.1 | 230.0 | 2.1 | | 29.6 | 9 | 5337 | 21 37 30 |
| 21 38 30 | =1453+217 | 17 04 36 | 50.0 | 230.3 | 2.1 | | 29.8 | 60 | 5345 | 21 37 31 |
| 21 38 30 | TVLM513 | 17 04 36 | 51.8 | 229.5 | 2.0 | | 29.7 | -20 | 5345 | No stop |
| 21 42 00 | --- | 17 08 06 | 51.4 | 230.7 | 2.1 | | 30.2 | 190 | 5372 | 21 38 31 |
| 21 42 00 | J1455+2131 | 17 08 06 | 49.6 | 231.4 | 2.2 | | 30.3 | -21 | 5372 | No stop |
| 21 43 30 | =1453+217 | 17 09 37 | 49.4 | 231.9 | 2.2 | | 30.5 | 69 | 5383 | 21 42 01 |
| 21 43 30 | TVLM513 | 17 09 37 | 51.2 | 231.1 | 2.1 | | 30.5 | -20 | 5383 | No stop |
| 21 47 00 | --- | 17 13 07 | 50.8 | 232.3 | 2.2 | | 31.0 | 190 | 5410 | 21 43 31 |
| 21 47 30 | J1455+2131 | 17 13 37 | 48.9 | 233.1 | 2.3 | | 31.1 | 9 | 5410 | 21 47 30 |
| 21 48 30 | =1453+217 | 17 14 37 | 48.8 | 233.4 | 2.3 | | 31.2 | 60 | 5418 | 21 47 31 |
| 21 48 30 | TVLM513 | 17 14 37 | 50.6 | 232.7 | 2.2 | | 31.2 | -20 | 5418 | No stop |
| 21 52 00 | --- | 17 18 08 | 50.2 | 233.8 | 2.3 | | 31.7 | 190 | 5445 | 21 48 31 |
| 21 52 00 | J1455+2131 | 17 18 08 | 48.4 | 234.4 | 2.4 | | 31.7 | -21 | 5445 | No stop |
| 21 53 30 | =1453+217 | 17 19 38 | 48.2 | 234.9 | 2.4 | | 31.9 | 69 | 5456 | 21 52 01 |

Schedule for TORUN (Code Tr ) Page 17

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 21 53 30 | J1504+2218 | 17 19 38 | 50.0 | 232.8 | 2.2 | | 31.1 | -20 | 5456 | No stop |
| 21 57 00 | --- | 17 23 09 | 49.5 | 233.9 | 2.3 | | 31.6 | 190 | 5483 | 21 53 31 |
| 21 57 30 | J1455+2131 | 17 23 39 | 47.7 | 236.1 | 2.5 | | 32.4 | 10 | 5483 | 21 57 30 |
| 21 58 30 | =1453+217 | 17 24 39 | 47.6 | 236.4 | 2.5 | | 32.5 | 60 | 5491 | 21 57 31 |
| 21 58 30 | TVLM513 | 17 24 39 | 49.4 | 235.8 | 2.4 | | 32.6 | -20 | 5491 | No stop |
| 22 02 00 | --- | 17 28 10 | 49.0 | 236.8 | 2.4 | | 33.0 | 190 | 5518 | 21 58 31 |
| 22 02 00 | J1455+2131 | 17 28 10 | 47.1 | 237.4 | 2.5 | | 32.9 | -21 | 5518 | No stop |
| 22 03 30 | =1453+217 | 17 29 40 | 47.0 | 237.8 | 2.6 | | 33.1 | 69 | 5529 | 22 02 01 |
| 22 03 30 | TVLM513 | 17 29 40 | 48.8 | 237.3 | 2.5 | | 33.2 | -20 | 5529 | No stop |
| 22 07 00 | --- | 17 33 10 | 48.3 | 238.3 | 2.5 | | 33.6 | 190 | 5556 | 22 03 31 |
| 22 07 30 | J1455+2131 | 17 33 41 | 46.4 | 238.9 | 2.6 | | 33.6 | 9 | 5556 | 22 07 30 |
| 22 08 30 | =1453+217 | 17 34 41 | 46.3 | 239.2 | 2.6 | | 33.7 | 60 | 5564 | 22 07 31 |
| 22 08 30 | TVLM513 | 17 34 41 | 48.1 | 238.7 | 2.5 | | 33.8 | -20 | 5564 | No stop |
| 22 12 00 | --- | 17 38 11 | 47.7 | 239.7 | 2.6 | | 34.2 | 190 | 5591 | 22 08 31 |
| 22 12 00 | J1455+2131 | 17 38 11 | 45.9 | 240.2 | 2.7 | | 34.1 | -21 | 5591 | No stop |
| 22 13 30 | =1453+217 | 17 39 41 | 45.7 | 240.6 | 2.7 | | 34.2 | 69 | 5603 | 22 12 01 |
| 22 13 30 | TVLM513 | 17 39 41 | 47.5 | 240.1 | 2.6 | | 34.4 | -20 | 5603 | No stop |
| 22 17 00 | --- | 17 43 12 | 47.0 | 241.1 | 2.7 | | 34.8 | 190 | 5629 | 22 13 31 |
| 22 17 30 | J1455+2131 | 17 43 42 | 45.1 | 241.7 | 2.8 | | 34.6 | 9 | 5629 | 22 17 30 |
| 22 18 30 | =1453+217 | 17 44 42 | 45.0 | 242.0 | 2.8 | | 34.7 | 60 | 5637 | 22 17 31 |
| 22 18 30 | TVLM513 | 17 44 42 | 46.8 | 241.5 | 2.7 | | 34.9 | -20 | 5637 | No stop |
| 22 22 00 | --- | 17 48 13 | 46.4 | 242.5 | 2.8 | | 35.3 | 190 | 5664 | 22 18 31 |
| 22 22 00 | J1455+2131 | 17 48 13 | 44.5 | 242.9 | 2.9 | | 35.1 | -21 | 5664 | No stop |
| 22 23 30 | =1453+217 | 17 49 43 | 44.3 | 243.3 | 2.9 | | 35.2 | 69 | 5676 | 22 22 01 |
| 22 23 30 | J1504+2218 | 17 49 43 | 46.2 | 241.6 | 2.7 | | 34.8 | -20 | 5676 | No stop |
| 22 27 00 | --- | 17 53 14 | 45.7 | 242.5 | 2.8 | | 35.1 | 190 | 5703 | 22 23 31 |
| 22 27 30 | J1455+2131 | 17 53 44 | 43.8 | 244.4 | 3.0 | | 35.6 | 9 | 5703 | 22 27 30 |
| 22 28 30 | =1453+217 | 17 54 44 | 43.7 | 244.6 | 3.0 | | 35.7 | 60 | 5710 | 22 27 31 |
| 22 28 30 | TVLM513 | 17 54 44 | 45.5 | 244.2 | 2.9 | | 35.9 | -20 | 5710 | No stop |
| 22 32 00 | --- | 17 58 15 | 45.0 | 245.2 | 2.9 | | 36.2 | 190 | 5737 | 22 28 31 |
| 22 32 00 | J1455+2131 | 17 58 15 | 43.2 | 245.6 | 3.0 | | 36.0 | -21 | 5737 | No stop |
| 22 33 30 | =1453+217 | 17 59 45 | 43.0 | 245.9 | 3.1 | | 36.1 | 69 | 5749 | 22 32 01 |

Schedule for TORUN (Code Tr ) Page 18

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 22 33 30 | TVLM513 | 17 59 45 | 44.8 | 245.6 | 3.0 | | 36.4 | -20 | 5749 | No stop |
| 22 37 00 | --- | 18 03 15 | 44.3 | 246.5 | 3.0 | | 36.7 | 190 | 5776 | 22 33 31 |
| 22 37 30 | J1455+2131 | 18 03 45 | 42.4 | 247.0 | 3.1 | | 36.4 | 9 | 5776 | 22 37 30 |
| 22 38 30 | =1453+217 | 18 04 46 | 42.3 | 247.2 | 3.1 | | 36.5 | 60 | 5783 | 22 37 31 |
| 22 38 30 | TVLM513 | 18 04 46 | 44.1 | 246.9 | 3.0 | | 36.8 | -20 | 5783 | No stop |
| 22 42 00 | --- | 18 08 16 | 43.6 | 247.8 | 3.1 | | 37.1 | 190 | 5810 | 22 38 31 |
| 22 42 00 | J1455+2131 | 18 08 16 | 41.8 | 248.1 | 3.2 | | 36.8 | -21 | 5810 | No stop |
| 22 43 30 | =1453+217 | 18 09 46 | 41.6 | 248.5 | 3.2 | | 36.9 | 69 | 5822 | 22 42 01 |
| 22 43 30 | TVLM513 | 18 09 46 | 43.4 | 248.1 | 3.1 | | 37.2 | -20 | 5822 | No stop |
| 22 47 00 | --- | 18 13 17 | 42.9 | 249.0 | 3.2 | | 37.5 | 190 | 5849 | 22 43 31 |
| 22 47 30 | J1455+2131 | 18 13 47 | 41.0 | 249.5 | 3.3 | | 37.2 | 9 | 5849 | 22 47 30 |
| 22 48 30 | =1453+217 | 18 14 47 | 40.9 | 249.7 | 3.3 | | 37.2 | 60 | 5856 | 22 47 31 |
| 22 48 30 | TVLM513 | 18 14 47 | 42.7 | 249.4 | 3.2 | | 37.6 | -20 | 5856 | No stop |
| 22 52 00 | --- | 18 18 18 | 42.2 | 250.3 | 3.3 | | 37.8 | 190 | 5883 | 22 48 31 |
| 22 52 00 | J1455+2131 | 18 18 18 | 40.4 | 250.6 | 3.4 | | 37.5 | -21 | 5883 | No stop |
| 22 53 30 | =1453+217 | 18 19 48 | 40.2 | 250.9 | 3.4 | | 37.6 | 69 | 5895 | 22 52 01 |
| 22 53 30 | J1504+2218 | 18 19 48 | 42.0 | 249.4 | 3.2 | | 37.4 | -21 | 5895 | No stop |
| 22 57 00 | --- | 18 23 19 | 41.6 | 250.3 | 3.3 | | 37.6 | 189 | 5922 | 22 53 31 |
| 22 57 30 | J1455+2131 | 18 23 49 | 39.6 | 251.9 | 3.5 | | 37.8 | 9 | 5922 | 22 57 30 |
| 22 58 30 | =1453+217 | 18 24 49 | 39.5 | 252.1 | 3.5 | | 37.9 | 60 | 5929 | 22 57 31 |
| 22 58 30 | TVLM513 | 18 24 49 | 41.3 | 251.9 | 3.4 | | 38.2 | -20 | 5929 | No stop |
| 23 02 00 | --- | 18 28 19 | 40.8 | 252.7 | 3.4 | | 38.4 | 190 | 5956 | 22 58 31 |
| 23 02 00 | J1455+2131 | 18 28 19 | 39.0 | 253.0 | 3.5 | | 38.1 | -21 | 5956 | No stop |
| 23 03 30 | =1453+217 | 18 29 50 | 38.7 | 253.3 | 3.6 | | 38.2 | 69 | 5968 | 23 02 01 |
| 23 03 30 | TVLM513 | 18 29 50 | 40.6 | 253.1 | 3.5 | | 38.5 | -20 | 5968 | No stop |
| 23 07 00 | --- | 18 33 20 | 40.1 | 253.9 | 3.5 | | 38.7 | 190 | 5995 | 23 03 31 |
| 23 07 30 | J1455+2131 | 18 33 50 | 38.2 | 254.3 | 3.6 | | 38.4 | 9 | 5995 | 23 07 30 |
| 23 08 30 | =1453+217 | 18 34 51 | 38.0 | 254.5 | 3.6 | | 38.4 | 60 | 6003 | 23 07 31 |
| 23 08 30 | TVLM513 | 18 34 51 | 39.9 | 254.2 | 3.6 | | 38.8 | -20 | 6003 | No stop |
| 23 12 00 | --- | 18 38 21 | 39.3 | 255.1 | 3.6 | | 39.0 | 190 | 6029 | 23 08 31 |

Schedule for TORUN (Code Tr ) Page 19

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 23 12 00 | J1455+2131 | 18 38 21 | 37.5 | 255.3 | 3.7 | | 38.6 | -21 | 6029 | No stop |
| 23 13 30 | =1453+217 | 18 39 51 | 37.3 | 255.6 | 3.7 | | 38.7 | 69 | 6041 | 23 12 01 |
| 23 13 30 | TVLM513 | 18 39 51 | 39.1 | 255.4 | 3.6 | | 39.1 | -20 | 6041 | No stop |
| 23 17 00 | --- | 18 43 22 | 38.6 | 256.2 | 3.7 | | 39.2 | 190 | 6068 | 23 13 31 |
| 23 17 30 | J1455+2131 | 18 43 52 | 36.7 | 256.6 | 3.8 | | 38.9 | 9 | 6068 | 23 17 30 |
| 23 18 30 | =1453+217 | 18 44 52 | 36.6 | 256.8 | 3.8 | | 38.9 | 60 | 6076 | 23 17 31 |
| 23 18 30 | TVLM513 | 18 44 52 | 38.4 | 256.6 | 3.7 | | 39.3 | -20 | 6076 | No stop |
| 23 22 00 | --- | 18 48 23 | 37.9 | 257.3 | 3.8 | | 39.5 | 190 | 6103 | 23 18 31 |
| 23 22 00 | J1455+2131 | 18 48 23 | 36.0 | 257.6 | 3.9 | | 39.1 | -21 | 6103 | No stop |
| 23 23 30 | =1453+217 | 18 49 53 | 35.8 | 257.9 | 3.9 | | 39.1 | 69 | 6114 | 23 22 01 |
| 23 23 30 | J1504+2218 | 18 49 53 | 37.7 | 256.5 | 3.7 | | 39.1 | -21 | 6114 | No stop |
| 23 27 00 | --- | 18 53 24 | 37.2 | 257.3 | 3.8 | | 39.3 | 189 | 6141 | 23 23 31 |
| 23 27 30 | J1455+2131 | 18 53 54 | 35.2 | 258.8 | 4.0 | | 39.3 | 9 | 6141 | 23 27 30 |
| 23 28 30 | =1453+217 | 18 54 54 | 35.1 | 259.0 | 4.0 | | 39.3 | 60 | 6149 | 23 27 31 |
| 23 28 30 | TVLM513 | 18 54 54 | 36.9 | 258.8 | 3.9 | | 39.7 | -20 | 6149 | No stop |
| 23 32 00 | --- | 18 58 24 | 36.4 | 259.6 | 3.9 | | 39.8 | 190 | 6176 | 23 28 31 |
| 23 32 00 | J1455+2131 | 18 58 24 | 34.6 | 259.8 | 4.0 | | 39.4 | -21 | 6176 | No stop |
| 23 33 30 | =1453+217 | 18 59 55 | 34.4 | 260.1 | 4.1 | | 39.5 | 69 | 6187 | 23 32 01 |
| 23 33 30 | TVLM513 | 18 59 55 | 36.2 | 259.9 | 4.0 | | 39.9 | -20 | 6187 | No stop |
| 23 37 00 | --- | 19 03 25 | 35.7 | 260.7 | 4.0 | | 40.0 | 190 | 6214 | 23 33 31 |
| 23 37 00 | J1455+2131 | 19 03 25 | 33.8 | 260.9 | 4.1 | | 39.6 | -21 | 6214 | No stop |
| 23 38 30 | =1453+217 | 19 04 55 | 33.6 | 261.2 | 4.1 | | 39.6 | 69 | 6226 | 23 37 01 |
| 23 38 30 | TVLM513 | 19 04 55 | 35.4 | 261.0 | 4.1 | | 40.0 | -20 | 6226 | No stop |
| 23 42 00 | --- | 19 08 26 | 34.9 | 261.8 | 4.1 | | 40.1 | 190 | 6253 | 23 38 31 |
| 23 42 00 | J1455+2131 | 19 08 26 | 33.1 | 261.9 | 4.2 | | 39.7 | -21 | 6253 | No stop |
| 23 43 30 | =1453+217 | 19 09 56 | 32.9 | 262.3 | 4.2 | | 39.7 | 69 | 6264 | 23 42 01 |
| 23 43 30 | J1504+2218 | 19 09 56 | 34.8 | 261.0 | 4.1 | | 39.8 | -21 | 6264 | No stop |
| 23 47 00 | --- | 19 13 27 | 34.3 | 261.7 | 4.1 | | 39.9 | 189 | 6291 | 23 43 31 |
| 23 47 30 | J1455+2131 | 19 13 57 | 32.3 | 263.1 | 4.3 | | 39.8 | 9 | 6291 | 23 47 30 |
| 23 49 00 | =1453+217 | 19 15 27 | 32.0 | 263.4 | 4.3 | | 39.9 | 90 | 6303 | 23 47 31 |

Schedule for TORUN (Code Tr ) Page 20

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Tue 24 Jun 2014 Day 175 --- | | | | | | | | | | |
| 23 53 50 | J1847+0810 | 19 20 18 | 44.6 | 191.3 | 0.5 | | 6.8 | 129 | 6303 | 23 53 50 |
| 23 54 50 | =1844+081 | 19 21 18 | 44.6 | 191.6 | 0.6 | | 7.0 | 60 | 6310 | 23 53 51 |
| 23 55 10 | J1847+0810 | 19 21 38 | 44.6 | 191.7 | 0.6 | | 7.1 | 14 | 6310 | 23 55 10 |
| 23 56 40 | =1844+081 | 19 23 08 | 44.5 | 192.3 | 0.6 | | 7.4 | 90 | 6322 | 23 55 11 |
| --- Start: Tue 24 Jun 2014 Day 175 -- Stop: Wed 25 Jun 2014 Day 176 --- | | | | | | | | | | |
| 23 56 40 | J1844+1140 | 19 23 08 | 47.9 | 194.0 | 0.6 | | 8.5 | -26 | 6322 | No stop |
| 00 00 10 | --- | 19 26 39 | 47.8 | 195.3 | 0.7 | | 9.3 | 184 | 6349 | 23 56 41 |
| 00 00 40 | J1847+0810 | 19 27 09 | 44.4 | 193.6 | 0.7 | | 8.2 | 4 | 6349 | 00 00 40 |
| 00 01 40 | =1844+081 | 19 28 09 | 44.4 | 194.0 | 0.7 | | 8.4 | 60 | 6356 | 00 00 41 |
| 00 01 40 | V1285AQL | 19 28 09 | 44.9 | 191.2 | 0.5 | | 6.8 | -20 | 6356 | No stop |
| 00 05 10 | --- | 19 31 40 | 44.8 | 192.4 | 0.6 | | 7.5 | 190 | 6383 | 00 01 41 |
| 00 05 10 | J1847+0810 | 19 31 40 | 44.2 | 195.2 | 0.7 | | 9.1 | -20 | 6383 | No stop |
| 00 06 40 | =1844+081 | 19 33 10 | 44.2 | 195.7 | 0.8 | | 9.4 | 70 | 6395 | 00 05 11 |
| 00 06 40 | V1285AQL | 19 33 10 | 44.7 | 192.9 | 0.6 | | 7.8 | -20 | 6395 | No stop |
| 00 10 10 | --- | 19 36 41 | 44.6 | 194.1 | 0.7 | | 8.5 | 190 | 6422 | 00 06 41 |
| 00 10 40 | J1847+0810 | 19 37 11 | 44.0 | 197.1 | 0.8 | | 10.3 | 10 | 6422 | 00 10 40 |
| 00 11 40 | =1844+081 | 19 38 11 | 44.0 | 197.4 | 0.8 | | 10.5 | 60 | 6429 | 00 10 41 |
| 00 11 40 | V1285AQL | 19 38 11 | 44.5 | 194.6 | 0.7 | | 8.8 | -20 | 6429 | No stop |
| 00 15 10 | --- | 19 41 41 | 44.4 | 195.8 | 0.8 | | 9.5 | 190 | 6456 | 00 11 41 |
| 00 15 10 | J1847+0810 | 19 41 41 | 43.8 | 198.6 | 0.9 | | 11.1 | -20 | 6456 | No stop |
| 00 16 40 | =1844+081 | 19 43 12 | 43.7 | 199.1 | 0.9 | | 11.4 | 70 | 6468 | 00 15 11 |
| 00 16 40 | V1285AQL | 19 43 12 | 44.3 | 196.4 | 0.8 | | 9.8 | -20 | 6468 | No stop |
| 00 20 10 | --- | 19 46 42 | 44.2 | 197.6 | 0.8 | | 10.5 | 190 | 6495 | 00 16 41 |
| 00 20 40 | J1847+0810 | 19 47 12 | 43.5 | 200.4 | 1.0 | | 12.2 | 10 | 6495 | 00 20 40 |
| 00 21 40 | =1844+081 | 19 48 13 | 43.5 | 200.8 | 1.0 | | 12.4 | 60 | 6503 | 00 20 41 |
| 00 21 40 | V1285AQL | 19 48 13 | 44.1 | 198.1 | 0.9 | | 10.8 | -19 | 6503 | No stop |
| 00 25 10 | --- | 19 51 43 | 43.9 | 199.2 | 0.9 | | 11.5 | 191 | 6529 | 00 21 41 |
| 00 25 10 | J1847+0810 | 19 51 43 | 43.3 | 201.9 | 1.1 | | 13.1 | -20 | 6529 | No stop |
| 00 26 40 | =1844+081 | 19 53 13 | 43.2 | 202.4 | 1.1 | | 13.4 | 70 | 6541 | 00 25 11 |

Schedule for TORUN (Code Tr ) Page 21

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 25 Jun 2014 Day 176 --- | | | | | | | | | | |
| 00 26 40 | J1844+1140 | 19 53 13 | 46.4 | 204.6 | 1.1 | | 14.8 | -26 | 6541 | No stop |
| 00 30 10 | --- | 19 56 44 | 46.2 | 205.8 | 1.2 | | 15.5 | 184 | 6568 | 00 26 41 |
| 00 30 40 | J1847+0810 | 19 57 14 | 43.0 | 203.7 | 1.2 | | 14.1 | 4 | 6568 | 00 30 40 |
| 00 31 40 | =1844+081 | 19 58 14 | 42.9 | 204.1 | 1.2 | | 14.3 | 60 | 6576 | 00 30 41 |
| 00 31 40 | V1285AQL | 19 58 14 | 43.6 | 201.4 | 1.0 | | 12.8 | -19 | 6576 | No stop |
| 00 35 10 | --- | 20 01 45 | 43.4 | 202.6 | 1.1 | | 13.5 | 191 | 6603 | 00 31 41 |
| 00 35 10 | J1847+0810 | 20 01 45 | 42.7 | 205.2 | 1.2 | | 15.0 | -20 | 6603 | No stop |
| 00 36 40 | =1844+081 | 20 03 15 | 42.6 | 205.7 | 1.3 | | 15.3 | 70 | 6614 | 00 35 11 |
| 00 36 40 | V1285AQL | 20 03 15 | 43.3 | 203.1 | 1.1 | | 13.8 | -19 | 6614 | No stop |
| 00 40 10 | --- | 20 06 46 | 43.1 | 204.2 | 1.2 | | 14.4 | 191 | 6641 | 00 36 41 |
| 00 40 40 | J1847+0810 | 20 07 16 | 42.3 | 207.0 | 1.3 | | 16.0 | 10 | 6641 | 00 40 40 |
| 00 41 40 | =1844+081 | 20 08 16 | 42.2 | 207.3 | 1.3 | | 16.2 | 60 | 6649 | 00 40 41 |
| 00 41 40 | V1285AQL | 20 08 16 | 43.0 | 204.7 | 1.2 | | 14.7 | -19 | 6649 | No stop |
| 00 45 10 | --- | 20 11 46 | 42.8 | 205.9 | 1.3 | | 15.4 | 191 | 6676 | 00 41 41 |
| 00 45 10 | J1847+0810 | 20 11 46 | 42.0 | 208.4 | 1.4 | | 16.8 | -20 | 6676 | No stop |
| 00 46 40 | =1844+081 | 20 13 17 | 41.9 | 208.9 | 1.4 | | 17.1 | 70 | 6687 | 00 45 11 |
| 00 46 40 | V1285AQL | 20 13 17 | 42.7 | 206.4 | 1.3 | | 15.6 | -19 | 6687 | No stop |
| 00 50 10 | --- | 20 16 47 | 42.4 | 207.5 | 1.3 | | 16.3 | 191 | 6714 | 00 46 41 |
| 00 50 40 | J1847+0810 | 20 17 17 | 41.6 | 210.2 | 1.5 | | 17.8 | 11 | 6714 | 00 50 40 |
| 00 51 40 | =1844+081 | 20 18 17 | 41.5 | 210.5 | 1.5 | | 17.9 | 60 | 6722 | 00 50 41 |
| 00 51 40 | V1285AQL | 20 18 17 | 42.3 | 208.0 | 1.4 | | 16.5 | -19 | 6722 | No stop |
| 00 55 10 | --- | 20 21 48 | 42.1 | 209.1 | 1.4 | | 17.2 | 191 | 6749 | 00 51 41 |
| 00 55 10 | J1847+0810 | 20 21 48 | 41.2 | 211.6 | 1.6 | | 18.5 | -19 | 6749 | No stop |
| 00 56 40 | =1844+081 | 20 23 18 | 41.1 | 212.1 | 1.6 | | 18.8 | 71 | 6760 | 00 55 11 |
| 00 56 40 | J1844+1140 | 20 23 18 | 44.2 | 214.6 | 1.6 | | 20.4 | -25 | 6760 | No stop |
| 01 00 10 | --- | 20 26 49 | 43.9 | 215.7 | 1.7 | | 21.0 | 185 | 6787 | 00 56 41 |
| 01 00 40 | J1847+0810 | 20 27 19 | 40.8 | 213.3 | 1.7 | | 19.5 | 5 | 6787 | 01 00 40 |
| 01 01 40 | =1844+081 | 20 28 19 | 40.7 | 213.6 | 1.7 | | 19.6 | 60 | 6795 | 01 00 41 |
| 01 01 40 | V1285AQL | 20 28 19 | 41.6 | 211.2 | 1.5 | | 18.3 | -19 | 6795 | No stop |
| 01 05 10 | --- | 20 31 50 | 41.3 | 212.3 | 1.6 | | 18.9 | 191 | 6822 | 01 01 41 |

Schedule for TORUN (Code Tr ) Page 22

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 25 Jun 2014 Day 176 --- | | | | | | | | | | |
| 01 05 10 | J1847+0810 | 20 31 50 | 40.4 | 214.7 | 1.7 | | 20.2 | -19 | 6822 | No stop |
| 01 06 40 | =1844+081 | 20 33 20 | 40.3 | 215.2 | 1.8 | | 20.4 | 71 | 6833 | 01 05 11 |
| 01 06 40 | V1285AQL | 20 33 20 | 41.2 | 212.7 | 1.6 | | 19.2 | -19 | 6833 | No stop |
| 01 10 10 | --- | 20 36 51 | 40.9 | 213.8 | 1.7 | | 19.7 | 191 | 6860 | 01 06 41 |
| 01 10 40 | J1847+0810 | 20 37 21 | 39.9 | 216.4 | 1.8 | | 21.1 | 11 | 6860 | 01 10 40 |
| 01 11 40 | =1844+081 | 20 38 21 | 39.8 | 216.7 | 1.8 | | 21.2 | 60 | 6868 | 01 10 41 |
| 01 11 40 | V1285AQL | 20 38 21 | 40.8 | 214.3 | 1.7 | | 20.0 | -19 | 6868 | No stop |
| 01 15 10 | --- | 20 41 51 | 40.5 | 215.4 | 1.8 | | 20.6 | 191 | 6895 | 01 11 41 |
| 01 15 10 | J1847+0810 | 20 41 51 | 39.5 | 217.7 | 1.9 | | 21.8 | -19 | 6895 | No stop |
| 01 16 40 | =1844+081 | 20 43 22 | 39.4 | 218.2 | 1.9 | | 22.0 | 71 | 6906 | 01 15 11 |
| 01 16 40 | V1285AQL | 20 43 22 | 40.3 | 215.8 | 1.8 | | 20.8 | -19 | 6906 | No stop |
| 01 20 10 | --- | 20 46 52 | 40.0 | 216.9 | 1.8 | | 21.4 | 191 | 6933 | 01 16 41 |
| 01 20 40 | J1847+0810 | 20 47 22 | 39.0 | 219.4 | 2.0 | | 22.6 | 11 | 6933 | 01 20 40 |
| 01 21 40 | =1844+081 | 20 48 22 | 38.9 | 219.7 | 2.0 | | 22.8 | 60 | 6941 | 01 20 41 |
| 01 21 40 | V1285AQL | 20 48 22 | 39.9 | 217.3 | 1.9 | | 21.6 | -18 | 6941 | No stop |
| 01 25 10 | --- | 20 51 53 | 39.6 | 218.4 | 1.9 | | 22.1 | 192 | 6968 | 01 21 41 |
| 01 25 10 | J1847+0810 | 20 51 53 | 38.6 | 220.7 | 2.1 | | 23.3 | -19 | 6968 | No stop |
| 01 26 40 | =1844+081 | 20 53 23 | 38.4 | 221.1 | 2.1 | | 23.5 | 71 | 6979 | 01 25 11 |
| 01 26 40 | J1844+1140 | 20 53 23 | 41.3 | 223.8 | 2.1 | | 25.1 | -25 | 6979 | No stop |
| 01 30 10 | --- | 20 56 54 | 40.9 | 224.9 | 2.2 | | 25.6 | 185 | 7006 | 01 26 41 |
| 01 30 40 | J1847+0810 | 20 57 24 | 38.0 | 222.3 | 2.2 | | 24.1 | 5 | 7006 | 01 30 40 |
| 01 31 40 | =1844+081 | 20 58 24 | 37.9 | 222.6 | 2.2 | | 24.2 | 60 | 7014 | 01 30 41 |
| 01 31 40 | V1285AQL | 20 58 24 | 39.0 | 220.3 | 2.0 | | 23.1 | -18 | 7014 | No stop |
| 01 35 10 | --- | 21 01 55 | 38.6 | 221.3 | 2.1 | | 23.6 | 192 | 7041 | 01 31 41 |
| 01 35 10 | J1847+0810 | 21 01 55 | 37.6 | 223.6 | 2.2 | | 24.7 | -19 | 7041 | No stop |
| 01 36 40 | =1844+081 | 21 03 25 | 37.4 | 224.0 | 2.3 | | 24.9 | 71 | 7053 | 01 35 11 |
| 01 36 40 | V1285AQL | 21 03 25 | 38.5 | 221.7 | 2.1 | | 23.8 | -18 | 7053 | No stop |
| 01 40 10 | --- | 21 06 55 | 38.1 | 222.8 | 2.2 | | 24.3 | 192 | 7079 | 01 36 41 |
| 01 40 40 | J1847+0810 | 21 07 26 | 37.0 | 225.1 | 2.3 | | 25.5 | 11 | 7079 | 01 40 40 |
| 01 41 40 | =1844+081 | 21 08 26 | 36.9 | 225.4 | 2.3 | | 25.6 | 60 | 7087 | 01 40 41 |

Schedule for TORUN (Code Tr ) Page 23

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 25 Jun 2014 Day 176 --- | | | | | | | | | | |
| 01 41 40 | V1285AQL | 21 08 26 | 38.0 | 223.2 | 2.2 | | 24.5 | -18 | 7087 | No stop |
| 01 45 10 | --- | 21 11 56 | 37.6 | 224.2 | 2.3 | | 25.0 | 192 | 7114 | 01 41 41 |
| 01 45 10 | J1847+0810 | 21 11 56 | 36.5 | 226.4 | 2.4 | | 26.0 | -18 | 7114 | No stop |
| 01 46 40 | =1844+081 | 21 13 27 | 36.3 | 226.8 | 2.4 | | 26.2 | 72 | 7126 | 01 45 11 |
| 01 46 40 | V1285AQL | 21 13 27 | 37.4 | 224.6 | 2.3 | | 25.2 | -18 | 7126 | No stop |
| 01 50 10 | --- | 21 16 57 | 37.1 | 225.6 | 2.3 | | 25.7 | 192 | 7153 | 01 46 41 |
| 01 50 40 | J1847+0810 | 21 17 27 | 35.9 | 227.9 | 2.5 | | 26.7 | 12 | 7153 | 01 50 40 |
| 01 51 40 | =1844+081 | 21 18 27 | 35.8 | 228.2 | 2.5 | | 26.9 | 60 | 7160 | 01 50 41 |
| 01 51 40 | V1285AQL | 21 18 27 | 36.9 | 226.0 | 2.4 | | 25.9 | -18 | 7160 | No stop |
| 01 55 10 | --- | 21 21 58 | 36.5 | 227.0 | 2.4 | | 26.3 | 192 | 7187 | 01 51 41 |
| 01 55 10 | J1847+0810 | 21 21 58 | 35.4 | 229.1 | 2.6 | | 27.3 | -18 | 7187 | No stop |
| 01 56 40 | =1844+081 | 21 23 28 | 35.2 | 229.5 | 2.6 | | 27.5 | 72 | 7199 | 01 55 11 |
| 01 56 40 | J1844+1140 | 21 23 28 | 38.0 | 232.4 | 2.6 | | 29.1 | -24 | 7199 | No stop |
| 02 00 10 | --- | 21 26 59 | 37.5 | 233.3 | 2.7 | | 29.5 | 186 | 7226 | 01 56 41 |
| 02 00 40 | J1847+0810 | 21 27 29 | 34.8 | 230.6 | 2.7 | | 27.9 | 6 | 7226 | 02 00 40 |
| 02 01 40 | =1844+081 | 21 28 29 | 34.6 | 230.8 | 2.7 | | 28.1 | 60 | 7233 | 02 00 41 |
| 02 01 40 | V1285AQL | 21 28 29 | 35.8 | 228.8 | 2.5 | | 27.2 | -18 | 7233 | No stop |
| 02 05 10 | --- | 21 32 00 | 35.4 | 229.7 | 2.6 | | 27.6 | 192 | 7260 | 02 01 41 |
| 02 05 10 | J1847+0810 | 21 32 00 | 34.2 | 231.8 | 2.7 | | 28.5 | -18 | 7260 | No stop |
| 02 06 40 | =1844+081 | 21 33 30 | 34.0 | 232.2 | 2.8 | | 28.6 | 72 | 7272 | 02 05 11 |
| 02 06 40 | V1285AQL | 21 33 30 | 35.2 | 230.1 | 2.6 | | 27.8 | -18 | 7272 | No stop |
| 02 10 10 | --- | 21 37 00 | 34.8 | 231.1 | 2.7 | | 28.2 | 192 | 7299 | 02 06 41 |
| 02 10 40 | J1847+0810 | 21 37 30 | 33.6 | 233.2 | 2.8 | | 29.1 | 12 | 7299 | 02 10 40 |
| 02 11 40 | =1844+081 | 21 38 31 | 33.4 | 233.5 | 2.8 | | 29.2 | 60 | 7306 | 02 10 41 |
| 02 11 40 | V1285AQL | 21 38 31 | 34.6 | 231.5 | 2.7 | | 28.3 | -18 | 7306 | No stop |
| 02 15 10 | --- | 21 42 01 | 34.2 | 232.4 | 2.8 | | 28.7 | 192 | 7333 | 02 11 41 |
| 02 15 10 | J1847+0810 | 21 42 01 | 33.0 | 234.4 | 2.9 | | 29.5 | -18 | 7333 | No stop |
| 02 16 40 | =1844+081 | 21 43 31 | 32.8 | 234.8 | 2.9 | | 29.7 | 72 | 7345 | 02 15 11 |
| 02 16 40 | V1285AQL | 21 43 31 | 34.0 | 232.8 | 2.8 | | 28.9 | -18 | 7345 | No stop |
| 02 20 10 | --- | 21 47 02 | 33.6 | 233.7 | 2.8 | | 29.3 | 192 | 7372 | 02 16 41 |

Schedule for TORUN (Code Tr ) Page 24

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 25 Jun 2014 Day 176 --- | | | | | | | | | | |
| 02 20 40 | J1847+0810 | 21 47 32 | 32.3 | 235.8 | 3.0 | | 30.1 | 12 | 7372 | 02 20 40 |
| 02 21 40 | =1844+081 | 21 48 32 | 32.2 | 236.0 | 3.0 | | 30.2 | 60 | 7379 | 02 20 41 |
| 02 21 40 | V1285AQL | 21 48 32 | 33.4 | 234.1 | 2.9 | | 29.4 | -18 | 7379 | No stop |
| 02 25 10 | --- | 21 52 03 | 33.0 | 235.0 | 2.9 | | 29.8 | 192 | 7406 | 02 21 41 |
| 02 25 10 | J1847+0810 | 21 52 03 | 31.8 | 236.9 | 3.1 | | 30.6 | -18 | 7406 | No stop |
| 02 26 40 | =1844+081 | 21 53 33 | 31.6 | 237.3 | 3.1 | | 30.7 | 72 | 7418 | 02 25 11 |
| 02 26 40 | J1844+1140 | 21 53 33 | 34.2 | 240.2 | 3.1 | | 32.2 | -24 | 7418 | No stop |
| 02 30 10 | --- | 21 57 04 | 33.7 | 241.1 | 3.2 | | 32.5 | 186 | 7445 | 02 26 41 |
| 02 30 10 | J1847+0810 | 21 57 04 | 31.1 | 238.2 | 3.2 | | 31.0 | -24 | 7445 | No stop |
| 02 31 40 | =1844+081 | 21 58 34 | 31.0 | 238.5 | 3.2 | | 31.2 | 66 | 7456 | 02 30 11 |
| 02 31 40 | V1285AQL | 21 58 34 | 32.2 | 236.6 | 3.0 | | 30.5 | -18 | 7456 | No stop |
| 02 35 10 | --- | 22 02 04 | 31.8 | 237.5 | 3.1 | | 30.8 | 192 | 7483 | 02 31 41 |
| 02 35 40 | J1847+0810 | 22 02 35 | 30.4 | 239.5 | 3.2 | | 31.5 | 12 | 7483 | 02 35 40 |
| 02 36 40 | =1844+081 | 22 03 35 | 30.3 | 239.8 | 3.3 | | 31.6 | 60 | 7491 | 02 35 41 |
| 02 36 40 | V1285AQL | 22 03 35 | 31.6 | 237.9 | 3.1 | | 30.9 | -18 | 7491 | No stop |
| 02 40 10 | --- | 22 07 05 | 31.1 | 238.8 | 3.2 | | 31.3 | 192 | 7518 | 02 36 41 |
| 02 40 10 | J1847+0810 | 22 07 05 | 29.8 | 240.6 | 3.3 | | 31.9 | -18 | 7518 | No stop |
| 02 41 40 | =1844+081 | 22 08 36 | 29.7 | 241.0 | 3.3 | | 32.0 | 72 | 7529 | 02 40 11 |
| 02 41 40 | J1844+1140 | 22 08 36 | 32.2 | 243.9 | 3.4 | | 33.4 | -23 | 7529 | No stop |
| 02 45 10 | --- | 22 12 06 | 31.7 | 244.7 | 3.5 | | 33.7 | 187 | 7556 | 02 41 41 |
| 02 45 40 | J1847+0810 | 22 12 36 | 29.1 | 242.0 | 3.4 | | 32.4 | 6 | 7556 | 02 45 40 |
| 02 47 10 | =1844+081 | 22 14 06 | 28.9 | 242.3 | 3.4 | | 32.5 | 90 | 7568 | 02 45 41 |
| ---------- fringe finder ---------- | | | | | | | | | | |
| 02 52 10 | J2253+1608 | 22 19 07 | 52.5 | 165.9 | -0.6 | | -8.8 | 130 | 7568 | 02 52 10 |
| 02 58 10 | =3C454.3 | 22 25 08 | 52.7 | 168.2 | -0.5 | | -7.3 | 360 | 7614 | 02 52 11 |
| 03 03 10 | J0147+5840 | 22 30 09 | 62.3 | 58.2 | -3.3 | | -79.8 | 65 | 7614 | 03 03 10 |
| 03 04 10 | =0144+584 | 22 31 09 | 62.4 | 58.3 | -3.3 | | -79.9 | 60 | 7622 | 03 03 11 |
| 03 04 30 | J0147+5840 | 22 31 29 | 62.5 | 58.3 | -3.3 | | -80.0 | 14 | 7622 | 03 04 30 |
| 03 06 00 | =0144+584 | 22 33 00 | 62.7 | 58.4 | -3.3 | | -80.3 | 90 | 7633 | 03 04 31 |
| 03 06 00 | J0151+5454 | 22 33 00 | 61.3 | 65.9 | -3.3 | | -72.8 | -30 | 7633 | No stop |
| 03 09 30 | --- | 22 36 30 | 61.7 | 66.2 | -3.3 | | -73.3 | 180 | 7660 | 03 06 01 |

Schedule for TORUN (Code Tr ) Page 25

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 25 Jun 2014 Day 176 --- | | | | | | | | | | |
| 03 10 00 | J0147+5840 | 22 37 00 | 63.2 | 58.6 | -3.2 | | -81.0 | 0 | 7660 | 03 10 00 |
| 03 11 00 | =0144+584 | 22 38 00 | 63.3 | 58.6 | -3.2 | | -81.1 | 60 | 7668 | 03 10 01 |
| 03 11 00 | V596CAS | 22 38 00 | 61.8 | 58.4 | -3.4 | | -78.8 | -19 | 7668 | No stop |
| 03 14 30 | --- | 22 41 31 | 62.2 | 58.6 | -3.3 | | -79.4 | 191 | 7695 | 03 11 01 |
| 03 14 30 | J0147+5840 | 22 41 31 | 63.7 | 58.8 | -3.1 | | -81.7 | -19 | 7695 | No stop |
| 03 16 00 | =0144+584 | 22 43 01 | 63.9 | 58.8 | -3.1 | | -82.0 | 71 | 7706 | 03 14 31 |
| 03 16 00 | V596CAS | 22 43 01 | 62.4 | 58.6 | -3.3 | | -79.7 | -19 | 7706 | No stop |
| 03 19 30 | --- | 22 46 32 | 62.9 | 58.8 | -3.2 | | -80.3 | 191 | 7733 | 03 16 01 |
| 03 20 00 | J0147+5840 | 22 47 02 | 64.5 | 59.0 | -3.0 | | -82.7 | 11 | 7733 | 03 20 00 |
| 03 21 00 | =0144+584 | 22 48 02 | 64.6 | 59.0 | -3.0 | | -82.9 | 60 | 7741 | 03 20 01 |
| 03 21 00 | V596CAS | 22 48 02 | 63.1 | 58.9 | -3.2 | | -80.5 | -19 | 7741 | No stop |
| 03 24 30 | --- | 22 51 33 | 63.5 | 59.1 | -3.1 | | -81.1 | 191 | 7768 | 03 21 01 |
| 03 24 30 | J0147+5840 | 22 51 33 | 65.0 | 59.2 | -3.0 | | -83.5 | -19 | 7768 | No stop |
| 03 26 00 | =0144+584 | 22 53 03 | 65.2 | 59.2 | -2.9 | | -83.8 | 71 | 7779 | 03 24 31 |
| 03 26 00 | V596CAS | 22 53 03 | 63.7 | 59.1 | -3.1 | | -81.4 | -19 | 7779 | No stop |
| 03 29 30 | --- | 22 56 33 | 64.2 | 59.3 | -3.1 | | -82.0 | 191 | 7806 | 03 26 01 |
| 03 30 00 | J0147+5840 | 22 57 03 | 65.7 | 59.3 | -2.9 | | -84.6 | 11 | 7806 | 03 30 00 |
| 03 31 00 | =0144+584 | 22 58 04 | 65.9 | 59.4 | -2.8 | | -84.7 | 60 | 7814 | 03 30 01 |
| 03 31 00 | V596CAS | 22 58 04 | 64.4 | 59.3 | -3.0 | | -82.3 | -19 | 7814 | No stop |
| 03 34 30 | --- | 23 01 34 | 64.8 | 59.5 | -3.0 | | -82.9 | 191 | 7841 | 03 31 01 |
| 03 34 30 | J0147+5840 | 23 01 34 | 66.3 | 59.5 | -2.8 | | -85.4 | -19 | 7841 | No stop |
| 03 36 00 | =0144+584 | 23 03 04 | 66.5 | 59.5 | -2.8 | | -85.7 | 71 | 7853 | 03 34 31 |
| 03 36 00 | J0151+5454 | 23 03 04 | 65.4 | 68.5 | -2.8 | | -76.7 | -33 | 7853 | No stop |
| 03 39 30 | --- | 23 06 35 | 65.9 | 68.7 | -2.8 | | -77.2 | 177 | 7879 | 03 36 01 |
| 03 40 00 | J0147+5840 | 23 07 05 | 67.0 | 59.6 | -2.7 | | -86.5 | -3 | 7879 | 03 40 00 |
| 03 41 00 | =0144+584 | 23 08 05 | 67.2 | 59.6 | -2.7 | | -86.7 | 57 | 7887 | 03 40 01 |
| 03 41 00 | V596CAS | 23 08 05 | 65.6 | 59.7 | -2.9 | | -84.1 | -19 | 7887 | No stop |
| 03 44 30 | --- | 23 11 36 | 66.1 | 59.8 | -2.8 | | -84.7 | 191 | 7914 | 03 41 01 |
| 03 44 30 | J0147+5840 | 23 11 36 | 67.6 | 59.7 | -2.6 | | -87.4 | -19 | 7914 | No stop |
| 03 46 00 | =0144+584 | 23 13 06 | 67.8 | 59.7 | -2.6 | | -87.7 | 71 | 7926 | 03 44 31 |
| 03 46 00 | V596CAS | 23 13 06 | 66.3 | 59.9 | -2.8 | | -85.0 | -19 | 7926 | No stop |
| 03 49 30 | --- | 23 16 37 | 66.8 | 59.9 | -2.7 | | -85.7 | 191 | 7953 | 03 46 01 |

Schedule for TORUN (Code Tr ) Page 26

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 25 Jun 2014 Day 176 --- | | | | | | | | | | |
| 03 50 00 | J0147+5840 | 23 17 07 | 68.3 | 59.7 | -2.5 | | -88.5 | 11 | 7953 | 03 50 00 |
| 03 51 00 | =0144+584 | 23 18 07 | 68.5 | 59.7 | -2.5 | | -88.7 | 60 | 7960 | 03 50 01 |
| 03 51 00 | V596CAS | 23 18 07 | 66.9 | 60.0 | -2.7 | | -86.0 | -19 | 7960 | No stop |
| 03 54 30 | --- | 23 21 38 | 67.4 | 60.1 | -2.6 | | -86.6 | 191 | 7987 | 03 51 01 |
| 03 54 30 | J0147+5840 | 23 21 38 | 68.9 | 59.8 | -2.5 | | -89.4 | -19 | 7987 | No stop |
| 03 56 00 | =0144+584 | 23 23 08 | 69.1 | 59.8 | -2.4 | | -89.7 | 71 | 7999 | 03 54 31 |
| 03 56 00 | V596CAS | 23 23 08 | 67.6 | 60.1 | -2.6 | | -86.9 | -19 | 7999 | No stop |
| 03 59 30 | --- | 23 26 38 | 68.1 | 60.1 | -2.6 | | -87.6 | 191 | 8026 | 03 56 01 |
| 04 00 00 | J0147+5840 | 23 27 08 | 69.6 | 59.8 | -2.4 | | -90.6 | 11 | 8026 | 04 00 00 |
| 04 01 00 | =0144+584 | 23 28 09 | 69.8 | 59.8 | -2.3 | | -90.8 | 60 | 8033 | 04 00 01 |
| 04 01 00 | V596CAS | 23 28 09 | 68.3 | 60.2 | -2.5 | | -87.9 | -19 | 8033 | No stop |
| 04 04 30 | --- | 23 31 39 | 68.7 | 60.2 | -2.5 | | -88.7 | 191 | 8060 | 04 01 01 |
| 04 04 30 | J0147+5840 | 23 31 39 | 70.2 | 59.7 | -2.3 | | -91.6 | -19 | 8060 | No stop |
| 04 06 00 | =0144+584 | 23 33 09 | 70.4 | 59.7 | -2.3 | | -91.9 | 71 | 8072 | 04 04 31 |
| 04 06 00 | J0151+5454 | 23 33 09 | 69.7 | 70.7 | -2.3 | | -80.8 | -37 | 8072 | No stop |
| 04 09 30 | --- | 23 36 40 | 70.2 | 70.9 | -2.3 | | -81.3 | 173 | 8099 | 04 06 01 |
| 04 10 00 | J0147+5840 | 23 37 10 | 70.9 | 59.7 | -2.2 | | -92.8 | -7 | 8099 | 04 10 00 |
| 04 11 00 | =0144+584 | 23 38 10 | 71.1 | 59.6 | -2.2 | | -93.1 | 53 | 8106 | 04 10 01 |
| 04 11 00 | V596CAS | 23 38 10 | 69.6 | 60.2 | -2.4 | | -90.0 | -19 | 8106 | No stop |
| 04 14 30 | --- | 23 41 41 | 70.0 | 60.2 | -2.3 | | -90.8 | 191 | 8133 | 04 11 01 |
| 04 14 30 | J0147+5840 | 23 41 41 | 71.5 | 59.5 | -2.1 | | -93.9 | -19 | 8133 | No stop |
| 04 16 00 | =0144+584 | 23 43 11 | 71.7 | 59.5 | -2.1 | | -94.3 | 71 | 8145 | 04 14 31 |
| 04 16 00 | V596CAS | 23 43 11 | 70.2 | 60.2 | -2.3 | | -91.1 | -19 | 8145 | No stop |
| 04 19 30 | --- | 23 46 42 | 70.7 | 60.2 | -2.2 | | -91.9 | 191 | 8172 | 04 16 01 |
| 04 20 00 | J0147+5840 | 23 47 12 | 72.2 | 59.4 | -2.0 | | -95.3 | 11 | 8172 | 04 20 00 |
| 04 21 00 | =0144+584 | 23 48 12 | 72.4 | 59.3 | -2.0 | | -95.5 | 60 | 8179 | 04 20 01 |
| 04 21 00 | V596CAS | 23 48 12 | 70.9 | 60.2 | -2.2 | | -92.2 | -19 | 8179 | No stop |
| 04 24 30 | --- | 23 51 42 | 71.3 | 60.1 | -2.1 | | -93.0 | 191 | 8206 | 04 21 01 |
| 04 24 30 | J0147+5840 | 23 51 42 | 72.8 | 59.2 | -2.0 | | -96.4 | -19 | 8206 | No stop |
| 04 26 00 | =0144+584 | 23 53 13 | 73.0 | 59.1 | -1.9 | | -96.8 | 71 | 8218 | 04 24 31 |
| 04 26 00 | V596CAS | 23 53 13 | 71.5 | 60.1 | -2.1 | | -93.4 | -19 | 8218 | No stop |
| 04 29 30 | --- | 23 56 43 | 72.0 | 60.0 | -2.1 | | -94.2 | 191 | 8245 | 04 26 01 |

Schedule for TORUN (Code Tr ) Page 27

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 25 Jun 2014 Day 176 --- | | | | | | | | | | |
| 04 30 00 | J0147+5840 | 23 57 13 | 73.5 | 58.9 | -1.9 | | -97.9 | 11 | 8245 | 04 30 00 |
| 04 31 00 | =0144+584 | 23 58 14 | 73.7 | 58.8 | -1.8 | | -98.2 | 60 | 8253 | 04 30 01 |
| 04 31 00 | V596CAS | 23 58 14 | 72.2 | 59.9 | -2.0 | | -94.6 | -19 | 8253 | No stop |
| 04 34 30 | --- | 00 01 44 | 72.6 | 59.8 | -2.0 | | -95.5 | 191 | 8279 | 04 31 01 |
| 04 34 30 | J0147+5840 | 00 01 44 | 74.1 | 58.5 | -1.8 | | -99.1 | -19 | 8279 | No stop |
| 04 36 00 | =0144+584 | 00 03 14 | 74.3 | 58.4 | -1.8 | | -99.6 | 71 | 8291 | 04 34 31 |
| 04 36 00 | J0151+5454 | 00 03 14 | 73.9 | 72.3 | -1.8 | | -85.4 | -43 | 8291 | No stop |
| 04 39 30 | --- | 00 06 45 | 74.4 | 72.4 | -1.8 | | -86.0 | 167 | 8318 | 04 36 01 |
| 04 40 00 | J0147+5840 | 00 07 15 | 74.8 | 58.1 | -1.7 | | -100.8 | -14 | 8318 | 04 40 00 |
| 04 41 00 | =0144+584 | 00 08 15 | 74.9 | 58.0 | -1.7 | | -101.1 | 46 | 8326 | 04 40 01 |
| 04 41 00 | V596CAS | 00 08 15 | 73.5 | 59.5 | -1.9 | | -97.2 | -19 | 8326 | No stop |
| 04 44 30 | --- | 00 11 46 | 73.9 | 59.2 | -1.8 | | -98.1 | 191 | 8353 | 04 41 01 |
| 04 44 30 | J0147+5840 | 00 11 46 | 75.4 | 57.6 | -1.6 | | -102.2 | -19 | 8353 | No stop |
| 04 46 00 | =0144+584 | 00 13 16 | 75.6 | 57.5 | -1.6 | | -102.6 | 71 | 8364 | 04 44 31 |
| 04 46 00 | V596CAS | 00 13 16 | 74.1 | 59.1 | -1.8 | | -98.5 | -19 | 8364 | No stop |
| 04 49 30 | --- | 00 16 47 | 74.6 | 58.9 | -1.7 | | -99.6 | 191 | 8391 | 04 46 01 |
| 04 50 00 | J0147+5840 | 00 17 17 | 76.1 | 57.0 | -1.5 | | -104.0 | 11 | 8391 | 04 50 00 |
| 04 51 00 | =0144+584 | 00 18 17 | 76.2 | 56.8 | -1.5 | | -104.3 | 60 | 8399 | 04 50 01 |
| 04 51 00 | V596CAS | 00 18 17 | 74.8 | 58.7 | -1.7 | | -100.0 | -19 | 8399 | No stop |
| 04 54 30 | --- | 00 21 47 | 75.2 | 58.4 | -1.6 | | -101.1 | 191 | 8426 | 04 51 01 |
| 04 54 30 | J0147+5840 | 00 21 47 | 76.6 | 56.3 | -1.4 | | -105.6 | -19 | 8426 | No stop |
| 04 56 00 | =0144+584 | 00 23 18 | 76.8 | 56.1 | -1.4 | | -106.1 | 71 | 8437 | 04 54 31 |
| 04 56 00 | V596CAS | 00 23 18 | 75.4 | 58.3 | -1.6 | | -101.5 | -19 | 8437 | No stop |
| 04 59 30 | --- | 00 26 48 | 75.9 | 57.9 | -1.6 | | -102.6 | 191 | 8464 | 04 56 01 |
| 05 00 00 | J0147+5840 | 00 27 18 | 77.3 | 55.4 | -1.4 | | -107.6 | 11 | 8464 | 05 00 00 |
| 05 01 00 | =0144+584 | 00 28 18 | 77.5 | 55.3 | -1.3 | | -108.0 | 60 | 8472 | 05 00 01 |
| 05 01 00 | V596CAS | 00 28 18 | 76.0 | 57.7 | -1.5 | | -103.1 | -19 | 8472 | No stop |
| 05 04 30 | --- | 00 31 49 | 76.5 | 57.2 | -1.5 | | -104.3 | 191 | 8499 | 05 01 01 |
| 05 04 30 | J0147+5840 | 00 31 49 | 77.9 | 54.6 | -1.3 | | -109.4 | -20 | 8499 | No stop |
| 05 06 00 | =0144+584 | 00 33 19 | 78.1 | 54.3 | -1.3 | | -110.1 | 70 | 8510 | 05 04 31 |
| 05 06 00 | J0151+5454 | 00 33 19 | 78.3 | 72.9 | -1.3 | | -91.0 | -52 | 8510 | No stop |
| 05 09 30 | --- | 00 36 50 | 78.8 | 72.8 | -1.3 | | -91.8 | 158 | 8537 | 05 06 01 |

Schedule for TORUN (Code Tr ) Page 28

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 25 Jun 2014 Day 176 --- | | | | | | | | | | |
| 05 10 00 | J0147+5840 | 00 37 20 | 78.6 | 53.3 | -1.2 | | -111.8 | -24 | 8537 | 05 10 00 |
| 05 11 00 | =0144+584 | 00 38 20 | 78.7 | 53.1 | -1.2 | | -112.3 | 36 | 8545 | 05 10 01 |
| 05 11 00 | V596CAS | 00 38 20 | 77.3 | 56.2 | -1.4 | | -106.7 | -21 | 8545 | No stop |
| 05 14 30 | --- | 00 41 51 | 77.7 | 55.6 | -1.3 | | -108.1 | 189 | 8572 | 05 11 01 |
| 05 15 00 | J0147+5840 | 00 42 21 | 79.2 | 52.0 | -1.1 | | -114.2 | 8 | 8572 | 05 15 00 |
| 05 16 00 | =0144+584 | 00 43 21 | 79.3 | 51.7 | -1.1 | | -114.7 | 60 | 8579 | 05 15 01 |
| 05 16 00 | V596CAS | 00 43 21 | 77.9 | 55.3 | -1.3 | | -108.7 | -22 | 8579 | No stop |
| 05 19 30 | --- | 00 46 51 | 78.4 | 54.6 | -1.2 | | -110.1 | 188 | 8606 | 05 16 01 |
| 05 20 00 | J0147+5840 | 00 47 22 | 79.7 | 50.5 | -1.0 | | -116.8 | 7 | 8606 | 05 20 00 |
| 05 21 00 | =0144+584 | 00 48 22 | 79.9 | 50.2 | -1.0 | | -117.3 | 60 | 8614 | 05 20 01 |
| 05 21 00 | V596CAS | 00 48 22 | 78.5 | 54.2 | -1.2 | | -110.8 | -23 | 8614 | No stop |
| 05 24 30 | --- | 00 51 52 | 79.0 | 53.4 | -1.1 | | -112.4 | 187 | 8641 | 05 21 01 |
| 05 25 00 | J0147+5840 | 00 52 22 | 80.3 | 48.7 | -0.9 | | -119.6 | 6 | 8641 | 05 25 00 |
| 05 26 00 | =0144+584 | 00 53 23 | 80.4 | 48.3 | -0.9 | | -120.2 | 60 | 8649 | 05 25 01 |
| 05 26 00 | V596CAS | 00 53 23 | 79.1 | 53.0 | -1.1 | | -113.1 | -24 | 8649 | No stop |
| 05 29 30 | --- | 00 56 53 | 79.6 | 52.0 | -1.1 | | -114.9 | 186 | 8676 | 05 26 01 |
| 05 29 30 | J0147+5840 | 00 56 53 | 80.8 | 46.9 | -0.9 | | -122.4 | -25 | 8676 | No stop |
| 05 31 00 | =0144+584 | 00 58 23 | 81.0 | 46.2 | -0.8 | | -123.3 | 65 | 8687 | 05 29 31 |
| 05 31 00 | J0151+5454 | 00 58 23 | 81.8 | 71.3 | -0.9 | | -97.8 | -65 | 8687 | No stop |
| 05 34 30 | --- | 01 01 54 | 82.3 | 70.7 | -0.8 | | -99.0 | 145 | 8714 | 05 31 01 |
| 05 35 00 | J0147+5840 | 01 02 24 | 81.4 | 44.3 | -0.8 | | -126.1 | -38 | 8714 | 05 35 00 |
| 05 36 30 | =0144+584 | 01 03 54 | 81.6 | 43.5 | -0.7 | | -127.2 | 52 | 8726 | 05 35 01 |
| 05 47 30 | J2113+4012 | 01 14 56 | 48.1 | 277.3 | 4.0 | | 51.3 | 178 | 8726 | 05 47 30 |
| 05 48 30 | =2111+400 | 01 15 56 | 48.0 | 277.5 | 4.0 | | 51.3 | 60 | 8733 | 05 47 31 |
| 05 48 50 | J2113+4012 | 01 16 16 | 47.9 | 277.6 | 4.0 | | 51.3 | 14 | 8733 | 05 48 50 |
| 05 50 20 | =2111+400 | 01 17 47 | 47.7 | 277.8 | 4.1 | | 51.2 | 90 | 8745 | 05 48 51 |
| 05 50 20 | J2115+3742 | 01 17 47 | 46.3 | 274.8 | 4.0 | | 49.2 | -21 | 8745 | No stop |
| 05 53 50 | --- | 01 21 17 | 45.8 | 275.4 | 4.1 | | 49.1 | 189 | 8772 | 05 50 21 |
| 05 54 20 | J2113+4012 | 01 21 47 | 47.1 | 278.5 | 4.1 | | 51.1 | 9 | 8772 | 05 54 20 |
| 05 55 20 | =2111+400 | 01 22 47 | 47.0 | 278.7 | 4.1 | | 51.1 | 60 | 8779 | 05 54 21 |
| 05 55 20 | V1396CYG | 01 22 47 | 44.9 | 280.9 | 4.4 | | 50.5 | -22 | 8779 | No stop |
| 05 58 50 | --- | 01 26 18 | 44.4 | 281.5 | 4.4 | | 50.3 | 188 | 8806 | 05 55 21 |

Schedule for TORUN (Code Tr ) Page 29

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 25 Jun 2014 Day 176 --- | | | | | | | | | | |
| 05 58 50 | J2113+4012 | 01 26 18 | 46.4 | 279.3 | 4.2 | | 51.0 | -21 | 8806 | No stop |
| 06 00 20 | =2111+400 | 01 27 48 | 46.2 | 279.6 | 4.2 | | 50.9 | 69 | 8818 | 05 58 51 |
| 06 00 20 | V1396CYG | 01 27 48 | 44.1 | 281.7 | 4.5 | | 50.3 | -22 | 8818 | No stop |
| 06 03 50 | --- | 01 31 19 | 43.6 | 282.3 | 4.5 | | 50.1 | 188 | 8845 | 06 00 21 |
| 06 04 20 | J2113+4012 | 01 31 49 | 45.6 | 280.3 | 4.3 | | 50.8 | 9 | 8845 | 06 04 20 |
| 06 05 20 | =2111+400 | 01 32 49 | 45.5 | 280.5 | 4.3 | | 50.7 | 60 | 8853 | 06 04 21 |
| 06 05 20 | V1396CYG | 01 32 49 | 43.4 | 282.6 | 4.5 | | 50.0 | -22 | 8853 | No stop |
| 06 08 50 | --- | 01 36 20 | 42.9 | 283.2 | 4.6 | | 49.9 | 188 | 8879 | 06 05 21 |
| 06 08 50 | J2113+4012 | 01 36 20 | 44.9 | 281.1 | 4.4 | | 50.6 | -21 | 8879 | No stop |
| 06 10 20 | =2111+400 | 01 37 50 | 44.7 | 281.3 | 4.4 | | 50.5 | 69 | 8891 | 06 08 51 |
| 06 10 20 | V1396CYG | 01 37 50 | 42.7 | 283.4 | 4.6 | | 49.8 | -22 | 8891 | No stop |
| 06 13 50 | --- | 01 41 20 | 42.2 | 284.0 | 4.7 | | 49.6 | 188 | 8918 | 06 10 21 |
| 06 14 20 | J2113+4012 | 01 41 50 | 44.1 | 282.0 | 4.5 | | 50.3 | 9 | 8918 | 06 14 20 |
| 06 15 20 | =2111+400 | 01 42 51 | 44.0 | 282.2 | 4.5 | | 50.3 | 60 | 8926 | 06 14 21 |
| 06 15 20 | V1396CYG | 01 42 51 | 41.9 | 284.3 | 4.7 | | 49.6 | -22 | 8926 | No stop |
| 06 18 50 | --- | 01 46 21 | 41.4 | 284.8 | 4.8 | | 49.4 | 188 | 8953 | 06 15 21 |
| 06 18 50 | J2113+4012 | 01 46 21 | 43.5 | 282.8 | 4.5 | | 50.1 | -21 | 8953 | No stop |
| 06 20 20 | =2111+400 | 01 47 51 | 43.3 | 283.0 | 4.6 | | 50.1 | 69 | 8964 | 06 18 51 |
| 06 20 20 | J2115+3742 | 01 47 51 | 41.8 | 280.2 | 4.5 | | 48.4 | -20 | 8964 | No stop |
| 06 23 50 | --- | 01 51 22 | 41.3 | 280.8 | 4.6 | | 48.3 | 190 | 8991 | 06 20 21 |
| 06 24 20 | J2113+4012 | 01 51 52 | 42.7 | 283.7 | 4.6 | | 49.9 | 10 | 8991 | 06 24 20 |
| 06 25 20 | =2111+400 | 01 52 52 | 42.5 | 283.9 | 4.6 | | 49.8 | 60 | 8999 | 06 24 21 |
| 06 25 20 | V1396CYG | 01 52 52 | 40.5 | 285.9 | 4.9 | | 49.0 | -22 | 8999 | No stop |
| 06 28 50 | --- | 01 56 23 | 40.0 | 286.5 | 4.9 | | 48.8 | 188 | 9026 | 06 25 21 |
| 06 28 50 | J2113+4012 | 01 56 23 | 42.0 | 284.4 | 4.7 | | 49.7 | -21 | 9026 | No stop |
| 06 30 20 | =2111+400 | 01 57 53 | 41.8 | 284.7 | 4.7 | | 49.6 | 69 | 9037 | 06 28 51 |
| 06 30 20 | V1396CYG | 01 57 53 | 39.8 | 286.8 | 5.0 | | 48.8 | -22 | 9037 | No stop |
| 06 33 50 | --- | 02 01 24 | 39.3 | 287.3 | 5.0 | | 48.6 | 188 | 9064 | 06 30 21 |
| 06 34 20 | J2113+4012 | 02 01 54 | 41.2 | 285.4 | 4.8 | | 49.4 | 9 | 9064 | 06 34 20 |
| 06 35 20 | =2111+400 | 02 02 54 | 41.1 | 285.5 | 4.8 | | 49.3 | 60 | 9072 | 06 34 21 |
| 06 35 20 | V1396CYG | 02 02 54 | 39.0 | 287.6 | 5.0 | | 48.5 | -22 | 9072 | No stop |
| 06 38 50 | --- | 02 06 25 | 38.5 | 288.1 | 5.1 | | 48.3 | 188 | 9099 | 06 35 21 |

Schedule for TORUN (Code Tr ) Page 30

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start LST | Start EL | Start AZ | Stop HA | Stop UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 25 Jun 2014 Day 176 --- | | | | | | | | | | |
| 06 38 50 | J2113+4012 | 02 06 25 | 40.6 | 286.1 | 4.9 | | 49.1 | -21 | 9099 | No stop |
| 06 40 20 | =2111+400 | 02 07 55 | 40.3 | 286.3 | 4.9 | | 49.0 | 69 | 9110 | 06 38 51 |
| 06 40 20 | V1396CYG | 02 07 55 | 38.3 | 288.4 | 5.1 | | 48.2 | -22 | 9110 | No stop |
| 06 43 50 | --- | 02 11 25 | 37.8 | 289.0 | 5.2 | | 48.0 | 188 | 9137 | 06 40 21 |
| 06 44 20 | J2113+4012 | 02 11 55 | 39.8 | 287.0 | 5.0 | | 48.8 | 9 | 9137 | 06 44 20 |
| 06 45 20 | =2111+400 | 02 12 56 | 39.6 | 287.2 | 5.0 | | 48.8 | 60 | 9145 | 06 44 21 |
| 06 45 20 | V1396CYG | 02 12 56 | 37.6 | 289.2 | 5.2 | | 47.9 | -22 | 9145 | No stop |
| 06 48 50 | --- | 02 16 26 | 37.1 | 289.8 | 5.3 | | 47.7 | 188 | 9172 | 06 45 21 |
| 06 48 50 | J2113+4012 | 02 16 26 | 39.1 | 287.7 | 5.0 | | 48.6 | -21 | 9172 | No stop |
| 06 50 20 | =2111+400 | 02 17 56 | 38.9 | 288.0 | 5.1 | | 48.5 | 69 | 9183 | 06 48 51 |
| 06 50 20 | J2115+3742 | 02 17 56 | 37.4 | 285.4 | 5.0 | | 47.1 | -19 | 9183 | No stop |
| 06 53 50 | --- | 02 21 27 | 36.9 | 286.0 | 5.1 | | 46.9 | 191 | 9210 | 06 50 21 |
| 06 54 20 | J2113+4012 | 02 21 57 | 38.3 | 288.6 | 5.1 | | 48.2 | 11 | 9210 | 06 54 20 |
| 06 55 20 | =2111+400 | 02 22 57 | 38.2 | 288.8 | 5.1 | | 48.2 | 60 | 9218 | 06 54 21 |
| 06 55 20 | V1396CYG | 02 22 57 | 36.2 | 290.8 | 5.4 | | 47.2 | -21 | 9218 | No stop |
| 06 58 50 | --- | 02 26 28 | 35.7 | 291.4 | 5.4 | | 47.0 | 189 | 9245 | 06 55 21 |
| 06 58 50 | J2113+4012 | 02 26 28 | 37.7 | 289.4 | 5.2 | | 47.9 | -21 | 9245 | No stop |
| 07 00 20 | =2111+400 | 02 27 58 | 37.5 | 289.6 | 5.2 | | 47.9 | 69 | 9256 | 06 58 51 |
| 07 00 20 | V1396CYG | 02 27 58 | 35.5 | 291.6 | 5.5 | | 46.9 | -21 | 9256 | No stop |
| 07 03 50 | --- | 02 31 29 | 35.0 | 292.2 | 5.5 | | 46.7 | 189 | 9283 | 07 00 21 |
| 07 04 20 | J2113+4012 | 02 31 59 | 36.9 | 290.2 | 5.3 | | 47.6 | 9 | 9283 | 07 04 20 |
| 07 05 20 | =2111+400 | 02 32 59 | 36.8 | 290.4 | 5.3 | | 47.5 | 60 | 9291 | 07 04 21 |
| 07 05 20 | V1396CYG | 02 32 59 | 34.8 | 292.4 | 5.5 | | 46.5 | -21 | 9291 | No stop |
| 07 08 50 | --- | 02 36 29 | 34.3 | 293.0 | 5.6 | | 46.3 | 189 | 9318 | 07 05 21 |
| 07 08 50 | J2113+4012 | 02 36 29 | 36.3 | 291.0 | 5.4 | | 47.3 | -21 | 9318 | No stop |
| 07 10 20 | =2111+400 | 02 38 00 | 36.1 | 291.2 | 5.4 | | 47.2 | 69 | 9329 | 07 08 51 |
| 07 10 20 | V1396CYG | 02 38 00 | 34.1 | 293.2 | 5.6 | | 46.2 | -21 | 9329 | No stop |
| 07 13 50 | --- | 02 41 30 | 33.6 | 293.8 | 5.7 | | 45.9 | 189 | 9356 | 07 10 21 |
| 07 14 20 | J2113+4012 | 02 42 00 | 35.5 | 291.9 | 5.5 | | 46.9 | 9 | 9356 | 07 14 20 |
| 07 15 20 | =2111+400 | 02 43 01 | 35.4 | 292.0 | 5.5 | | 46.9 | 60 | 9364 | 07 14 21 |
| 07 15 20 | V1396CYG | 02 43 01 | 33.4 | 294.0 | 5.7 | | 45.8 | -21 | 9364 | No stop |
| 07 18 50 | --- | 02 46 31 | 32.9 | 294.6 | 5.8 | | 45.6 | 189 | 9391 | 07 15 21 |

Schedule for TORUN (Code Tr ) Page 31

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 25 Jun 2014 Day 176 --- | | | | | | | | | | |
| 07 18 50 | J2113+4012 | 02 46 31 | 34.9 | 292.6 | 5.5 | | 46.6 | -21 | 9391 | No stop |
| 07 20 20 | =2111+400 | 02 48 01 | 34.7 | 292.8 | 5.6 | | 46.5 | 69 | 9403 | 07 18 51 |
| 07 20 20 | J2115+3742 | 02 48 01 | 33.1 | 290.4 | 5.5 | | 45.4 | -20 | 9403 | No stop |
| 07 23 50 | --- | 02 51 32 | 32.6 | 291.0 | 5.6 | | 45.2 | 190 | 9429 | 07 20 21 |
| 07 24 20 | J2113+4012 | 02 52 02 | 34.1 | 293.5 | 5.6 | | 46.2 | 11 | 9429 | 07 24 20 |
| 07 25 20 | =2111+400 | 02 53 02 | 34.0 | 293.6 | 5.6 | | 46.1 | 60 | 9437 | 07 24 21 |
| 07 25 20 | V1396CYG | 02 53 02 | 32.1 | 295.6 | 5.9 | | 45.1 | -21 | 9437 | No stop |
| 07 28 50 | --- | 02 56 33 | 31.6 | 296.2 | 5.9 | | 44.8 | 189 | 9464 | 07 25 21 |
| 07 28 50 | J2113+4012 | 02 56 33 | 33.5 | 294.2 | 5.7 | | 45.9 | -21 | 9464 | No stop |
| 07 30 20 | =2111+400 | 02 58 03 | 33.3 | 294.4 | 5.7 | | 45.8 | 69 | 9476 | 07 28 51 |
| 07 30 20 | V1396CYG | 02 58 03 | 31.4 | 296.4 | 6.0 | | 44.7 | -21 | 9476 | No stop |
| 07 33 50 | --- | 03 01 34 | 30.9 | 297.0 | 6.0 | | 44.4 | 189 | 9503 | 07 30 21 |
| 07 34 20 | J2113+4012 | 03 02 04 | 32.7 | 295.1 | 5.8 | | 45.5 | 9 | 9503 | 07 34 20 |
| 07 35 20 | =2111+400 | 03 03 04 | 32.6 | 295.2 | 5.8 | | 45.4 | 60 | 9510 | 07 34 21 |
| 07 35 20 | V1396CYG | 03 03 04 | 30.7 | 297.2 | 6.0 | | 44.3 | -21 | 9510 | No stop |
| 07 38 50 | --- | 03 06 34 | 30.2 | 297.8 | 6.1 | | 44.0 | 189 | 9537 | 07 35 21 |
| 07 38 50 | J2113+4012 | 03 06 34 | 32.1 | 295.8 | 5.9 | | 45.1 | -21 | 9537 | No stop |
| 07 40 20 | =2111+400 | 03 08 05 | 31.9 | 296.0 | 5.9 | | 45.0 | 69 | 9549 | 07 38 51 |
| 07 40 20 | V1396CYG | 03 08 05 | 30.0 | 298.0 | 6.1 | | 43.9 | -21 | 9549 | No stop |
| 07 43 50 | --- | 03 11 35 | 29.6 | 298.6 | 6.2 | | 43.6 | 189 | 9576 | 07 40 21 |
| 07 44 20 | J2113+4012 | 03 12 05 | 31.4 | 296.6 | 6.0 | | 44.7 | 9 | 9576 | 07 44 20 |
| 07 45 20 | =2111+400 | 03 13 05 | 31.3 | 296.8 | 6.0 | | 44.6 | 60 | 9583 | 07 44 21 |
| 07 45 20 | V1396CYG | 03 13 05 | 29.4 | 298.8 | 6.2 | | 43.5 | -21 | 9583 | No stop |
| 07 48 50 | --- | 03 16 36 | 28.9 | 299.4 | 6.3 | | 43.2 | 189 | 9610 | 07 45 21 |
| 07 48 50 | J2113+4012 | 03 16 36 | 30.8 | 297.4 | 6.0 | | 44.3 | -21 | 9610 | No stop |
| 07 50 20 | =2111+400 | 03 18 06 | 30.6 | 297.6 | 6.1 | | 44.2 | 69 | 9622 | 07 48 51 |
| 07 50 20 | J2115+3742 | 03 18 06 | 28.9 | 295.4 | 6.0 | | 43.3 | -20 | 9622 | No stop |
| 07 53 50 | --- | 03 21 37 | 28.5 | 296.0 | 6.1 | | 43.1 | 190 | 9649 | 07 50 21 |
| 07 54 20 | J2113+4012 | 03 22 07 | 30.1 | 298.2 | 6.1 | | 43.9 | 10 | 9649 | 07 54 20 |
| 07 55 20 | =2111+400 | 03 23 07 | 29.9 | 298.4 | 6.2 | | 43.8 | 60 | 9656 | 07 54 21 |
| 07 55 20 | V1396CYG | 03 23 07 | 28.1 | 300.4 | 6.4 | | 42.6 | -21 | 9656 | No stop |
| 07 58 50 | --- | 03 26 38 | 27.6 | 301.0 | 6.4 | | 42.3 | 189 | 9683 | 07 55 21 |

Schedule for TORUN (Code Tr ) Page 32

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 25 Jun 2014 Day 176 --- | | | | | | | | | | |
| 07 58 50 | J2113+4012 | 03 26 38 | 29.5 | 299.0 | 6.2 | | 43.5 | -21 | 9683 | No stop |
| 08 00 20 | =2111+400 | 03 28 08 | 29.3 | 299.2 | 6.2 | | 43.4 | 69 | 9695 | 07 58 51 |
| 08 00 20 | V1396CYG | 03 28 08 | 27.4 | 301.2 | 6.5 | | 42.2 | -21 | 9695 | No stop |
| 08 03 50 | --- | 03 31 38 | 27.0 | 301.8 | 6.5 | | 41.9 | 189 | 9722 | 08 00 21 |
| 08 04 20 | J2113+4012 | 03 32 09 | 28.7 | 299.8 | 6.3 | | 43.1 | 9 | 9722 | 08 04 20 |
| 08 05 20 | =2111+400 | 03 33 09 | 28.6 | 300.0 | 6.3 | | 43.0 | 60 | 9729 | 08 04 21 |
| 08 05 20 | V1396CYG | 03 33 09 | 26.8 | 302.0 | 6.5 | | 41.7 | -21 | 9729 | No stop |
| 08 08 50 | --- | 03 36 39 | 26.3 | 302.6 | 6.6 | | 41.4 | 189 | 9756 | 08 05 21 |
| 08 08 50 | J2113+4012 | 03 36 39 | 28.2 | 300.6 | 6.4 | | 42.7 | -20 | 9756 | No stop |
| 08 10 20 | =2111+400 | 03 38 10 | 28.0 | 300.8 | 6.4 | | 42.5 | 70 | 9768 | 08 08 51 |
| 08 10 20 | V1396CYG | 03 38 10 | 26.1 | 302.8 | 6.6 | | 41.3 | -21 | 9768 | No stop |
| 08 13 50 | --- | 03 41 40 | 25.7 | 303.4 | 6.7 | | 41.0 | 189 | 9795 | 08 10 21 |
| 08 14 20 | J2113+4012 | 03 42 10 | 27.4 | 301.4 | 6.5 | | 42.2 | 10 | 9795 | 08 14 20 |
| 08 15 20 | =2111+400 | 03 43 10 | 27.3 | 301.6 | 6.5 | | 42.1 | 60 | 9803 | 08 14 21 |
| 08 15 20 | V1396CYG | 03 43 10 | 25.5 | 303.6 | 6.7 | | 40.8 | -21 | 9803 | No stop |
| 08 18 50 | --- | 03 46 41 | 25.1 | 304.2 | 6.8 | | 40.5 | 189 | 9829 | 08 15 21 |
| 08 18 50 | J2113+4012 | 03 46 41 | 26.9 | 302.1 | 6.5 | | 41.8 | -20 | 9829 | No stop |
| 08 20 20 | =2111+400 | 03 48 11 | 26.7 | 302.4 | 6.6 | | 41.7 | 70 | 9841 | 08 18 51 |
| 08 20 20 | J2115+3742 | 03 48 11 | 25.0 | 300.3 | 6.5 | | 41.0 | -20 | 9841 | No stop |
| 08 23 50 | --- | 03 51 42 | 24.5 | 300.9 | 6.6 | | 40.7 | 190 | 9868 | 08 20 21 |
| 08 23 50 | J2115+3742 | 03 51 42 | 24.5 | 300.9 | 6.6 | | 40.7 | -5 | 9868 | No stop |
| 08 27 20 | --- | 03 55 12 | 24.1 | 301.5 | 6.7 | | 40.4 | 205 | 9895 | 08 23 51 |
| 08 27 50 | J2113+4012 | 03 55 42 | 25.7 | 303.6 | 6.7 | | 41.0 | 10 | 9895 | 08 27 50 |
| 08 29 20 | =2111+400 | 03 57 13 | 25.5 | 303.8 | 6.7 | | 40.8 | 90 | 9906 | 08 27 51 |
| ---------- fringe finder ---------- | | | | | | | | | | |
| 08 30 40 | J2202+4216 | 03 58 33 | 33.2 | 298.0 | 5.9 | | 45.9 | 37 | 9906 | 08 30 40 |
| 08 36 40 | =BLLAC | 04 04 34 | 32.4 | 298.9 | 6.0 | | 45.4 | 360 | 9953 | 08 30 41 |
| 08 45 00 | DA193 | 04 12 55 | 68.0 | 116.6 | -1.7 | | -44.3 | 119 | 9953 | 08 45 00 |
| 09 00 00 | --- | 04 27 58 | 69.9 | 122.5 | -1.5 | | -41.2 | 900 | 10068 | 08 45 01 |
| 09 00 40 | DA193 | 04 28 38 | 70.0 | 122.8 | -1.5 | | -41.1 | 33 | 10068 | 09 00 40 |
| 09 15 00 | --- | 04 43 00 | 71.8 | 129.3 | -1.2 | | -37.2 | 860 | 10178 | 09 00 41 |

Schedule for TORUN (Code Tr ) Page 33

e-EVN runs: RR010, EG082D, and TE112

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | Start / Stop LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Wed 25 Jun 2014 Day 176 --- | | | | | | | | | | |
| 09 15 40 | DA193 | 04 43 40 | 71.8 | 129.7 | -1.2 | | -37.0 | 33 | 10178 | 09 15 40 |
| 09 30 00 | --- | 04 58 03 | 73.4 | 137.3 | -1.0 | | -32.0 | 860 | 10288 | 09 15 41 |
| 09 30 40 | DA193 | 04 58 43 | 73.5 | 137.7 | -1.0 | | -31.8 | 33 | 10288 | 09 30 40 |
| 09 45 00 | --- | 05 13 05 | 74.8 | 146.5 | -0.7 | | -25.5 | 860 | 10399 | 09 30 41 |
| 09 45 40 | DA193 | 05 13 45 | 74.8 | 147.0 | -0.7 | | -25.2 | 33 | 10399 | 09 45 40 |
| 10 00 00 | --- | 05 28 08 | 75.9 | 157.1 | -0.5 | | -17.7 | 860 | 10509 | 09 45 41 |
| 10 00 40 | DA193 | 05 28 48 | 75.9 | 157.6 | -0.5 | | -17.3 | 32 | 10509 | 10 00 40 |
| 10 15 00 | --- | 05 43 10 | 76.5 | 168.9 | -0.2 | | -8.6 | 860 | 10619 | 10 00 41 |
| 10 18 00 | 4C39.25 | 05 46 11 | 50.2 | 87.8 | -3.7 | | -50.5 | 3 | 10619 | 10 18 00 |
| 10 30 00 | --- | 05 58 12 | 52.0 | 90.1 | -3.5 | | -50.6 | 720 | 10711 | 10 18 01 |
| 10 30 40 | 4C39.25 | 05 58 53 | 52.1 | 90.3 | -3.5 | | -50.6 | 34 | 10711 | 10 30 40 |
| 10 45 00 | --- | 06 13 15 | 54.2 | 93.2 | -3.2 | | -50.5 | 860 | 10822 | 10 30 41 |
| 10 45 40 | 4C39.25 | 06 13 55 | 54.3 | 93.4 | -3.2 | | -50.5 | 34 | 10822 | 10 45 40 |
| 11 00 00 | --- | 06 28 17 | 56.5 | 96.5 | -3.0 | | -50.1 | 860 | 10932 | 10 45 41 |
| 11 00 40 | 4C39.25 | 06 28 58 | 56.6 | 96.7 | -3.0 | | -50.1 | 34 | 10932 | 11 00 40 |
| 11 15 00 | --- | 06 43 20 | 58.7 | 100.0 | -2.7 | | -49.5 | 860 | 11042 | 11 00 41 |
| 11 15 40 | 4C39.25 | 06 44 00 | 58.8 | 100.2 | -2.7 | | -49.5 | 34 | 11042 | 11 15 40 |
| 11 30 00 | --- | 06 58 22 | 60.9 | 103.8 | -2.5 | | -48.6 | 860 | 11153 | 11 15 41 |
| 11 30 40 | 4C39.25 | 06 59 02 | 61.0 | 104.0 | -2.5 | | -48.5 | 34 | 11153 | 11 30 40 |
| 11 45 00 | --- | 07 13 25 | 63.1 | 108.0 | -2.2 | | -47.3 | 860 | 11263 | 11 30 41 |
| 11 45 40 | 4C39.25 | 07 14 05 | 63.2 | 108.2 | -2.2 | | -47.2 | 34 | 11263 | 11 45 40 |
| 12 00 00 | --- | 07 28 27 | 65.2 | 112.6 | -2.0 | | -45.5 | 860 | 11373 | 11 45 41 |
| 12 00 40 | 4C39.25 | 07 29 07 | 65.3 | 112.8 | -2.0 | | -45.4 | 34 | 11373 | 12 00 40 |
| 12 15 00 | --- | 07 43 30 | 67.2 | 117.8 | -1.7 | | -43.1 | 860 | 11483 | 12 00 41 |
| 12 15 40 | 4C39.25 | 07 44 10 | 67.3 | 118.1 | -1.7 | | -43.0 | 34 | 11483 | 12 15 40 |
| 12 30 00 | --- | 07 58 32 | 69.2 | 123.7 | -1.5 | | -40.0 | 860 | 11594 | 12 15 41 |
| 12 30 40 | 4C39.25 | 07 59 12 | 69.3 | 124.0 | -1.5 | | -39.8 | 33 | 11594 | 12 30 40 |
| 12 45 00 | --- | 08 13 35 | 71.0 | 130.5 | -1.2 | | -36.0 | 860 | 11704 | 12 30 41 |
| 12 45 40 | 4C39.25 | 08 14 15 | 71.1 | 130.8 | -1.2 | | -35.8 | 33 | 11704 | 12 45 40 |
| 13 00 00 | --- | 08 28 37 | 72.6 | 138.3 | -1.0 | | -30.9 | 860 | 11814 | 12 45 41 |

```
SETUP FILE INFORMATION:


 ======== Setup file: sess214.C1024

   Setup group:    9          Station: TORUN             Total bit rate:  1024
   Format: MARK5B             Bits per sample: 2         Sample rate: 32.000
   Number of channels: 16     DBE type:                  Speedup factor:   1.00

   Disk used to record data.

   1st LO=   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
             4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00   4200.00
   Net SB=         L         L         U         U         L         L         U         U
                   L         L         U         U         L         L         U         U
   IF SB =         U         U         U         U         U         U         U         U
                   U         U         U         U         U         U         U         U
   Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                 RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
   BBC   =         1         5         1         5         2         6         2         6
                   3         7         3         7         4         8         4         8
   BBC SB=         L         L         U         U         L         L         U         U
                   L         L         U         U         L         L         U         U
   IF    =        A1        B1        A1        B1        A1        B1        A1        B1
                  A1        B1        A1        B1        A1        B1        A1        B1
  The following frequency sets based on these setups were used.

   Frequency Set:   5  Setup file default.  Used with PCAL = off
   LO sum=   4942.49  4942.49  4942.49  4942.49  4974.49  4974.49  4974.49  4974.49
             5006.49  5006.49  5006.49  5006.49  5038.49  5038.49  5038.49  5038.49
   BBC fr=    742.49   742.49   742.49   742.49   774.49   774.49   774.49   774.49
              806.49   806.49   806.49   806.49   838.49   838.49   838.49   838.49
   Bandwd=     16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
               16.00    16.00    16.00    16.00    16.00    16.00    16.00    16.00
    Matching frequency sets:   5

   Track assignments are:
    track1=   2,  4,  6,  8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
    barrel=roll_off
```

POSITIONS OF SOURCES USED IN RECORDING SCANS

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * SN2014BC | 12 16 29.571236 | * 12 18 57.710000 | 12 19 40.339958 | 0.00 |
| | 47 34 50.16504 | * 47 18 11.30000 | 47 13 35.05043 | 0.00 |
| * TVLM513 | 14 58 54.338781 | * 15 01 08.129400 | 15 01 48.072601 | 0.00 |
| | 23 01 49.59908 | * 22 50 01.18580 | 22 46 47.73324 | 0.00 |
| * J1504+2218 | 15 02 11.246974 | * 15 04 25.275200 | 15 05 05.307346 | 0.00 |
| | 22 29 52.47620 | * 22 18 14.28600 | 22 15 03.73576 | 0.00 |
| * V1285AQL | 18 53 03.266769 | * 18 55 27.499970 | 18 56 11.020073 | 0.00 |
| | 08 20 12.95647 | * 08 24 08.01630 | 08 25 27.21137 | 0.00 |
| * J1844+1140 | 18 41 57.758320 | * 18 44 18.018500 | 18 45 00.407554 | 0.00 |
| | 11 37 16.89940 | * 11 40 24.41500 | 11 41 29.73101 | 0.00 |
| * V1396CYG | 20 58 12.081065 | * 21 00 06.125340 | 21 00 41.132623 | 0.00 |
| | 39 52 23.49067 | * 40 04 09.37970 | 40 07 34.79638 | 0.00 |
| * J2115+3742 | 21 12 44.469033 | * 21 14 44.117900 | 21 15 20.642816 | 0.00 |
| | 37 29 56.03237 | * 37 42 25.72400 | 37 46 03.39466 | 0.00 |
| * V596CAS | 01 55 57.017535 | * 01 59 24.109340 | 02 00 24.700608 | 0.00 |
| | 58 16 40.59275 | * 58 31 13.24100 | 58 35 07.55888 | 0.00 |
| * J0151+5454 | 01 48 18.839204 | * 01 51 36.288800 | 01 52 34.084059 | 0.00 |
| | 54 39 48.95530 | * 54 54 37.68900 | 54 58 37.50646 | 0.00 |
| * RYSEX | 10 33 24.581141 | * 10 36 00.566420 | 10 36 45.576566 | 0.00 |
| | 05 22 48.14024 | * 05 07 14.66320 | 05 02 39.63758 | 0.00 |
| * J1035+0522 | 10 32 21.484250 | * 10 34 57.605900 | 10 35 42.646826 | 0.00 |
| | 05 38 04.61084 | * 05 22 32.81500 | 05 17 58.31101 | 0.00 |
| * J0147+5840 | 01 44 24.000042 | * 01 47 46.541223 | 01 48 45.940657 | 2.66 |
| 0144+584 | 58 25 48.56646 | * 58 40 44.97262 | 58 44 46.38428 | 1.74 |
| J0555+3948 | 05 52 01.407174 | * 05 55 30.805616 | 05 56 30.322779 | 0.13 |
| * DA193 | 39 48 21.94578 | * 39 48 49.16493 | 39 48 44.79592 | 0.10 |
| J0927+3902 | 09 23 55.319217 | * 09 27 03.013938 | 09 27 56.252384 | 0.13 |
| * 4C39.25 | 39 15 23.56637 | * 39 02 20.85177 | 38 58 34.65925 | 0.10 |
| * J1038+0512 | 10 36 10.827228 | * 10 38 46.779881 | 10 39 31.794580 | 0.12 |
| 1036+054 | 05 28 06.89952 | * 05 12 29.08645 | 05 07 52.95558 | 0.17 |
| J1159+2914 | 11 56 57.786211 | * 11 59 31.833912 | 12 00 16.411606 | 0.11 |
| * 1156+295 | 29 31 25.73868 | * 29 14 43.82678 | 29 10 00.87515 | 0.10 |
| * J1203+4803 | 12 00 56.818513 | * 12 03 29.853036 | 12 04 13.743640 | 0.19 |
| 1200+483 | 48 19 55.44029 | * 48 03 13.62605 | 47 58 35.95479 | 0.22 |
| * J1219+4829 | 12 16 38.565800 | * 12 19 06.414750 | 12 19 48.930149 | 0.16 |
| 1216+487 | 48 46 34.97545 | * 48 29 56.16474 | 48 25 20.21267 | 0.10 |

| | | | | |
|---|---|---|---|---|
| * J1310+3220 | 13 08 07.560132 | * 13 10 28.663851 | 13 11 09.937951 | 0.12 |
| 1308+326 | 32 36 40.23870 | * 32 20 43.78277 | 32 16 18.01272 | 0.10 |
| * J1455+2131 | 14 53 16.335948 | * 14 55 31.846310 | 14 56 12.264891 | 0.20 |
| 1453+217 | 21 43 44.75328 | * 21 31 39.17553 | 21 28 20.34454 | 0.32 |
| * J1847+0810 | 18 44 48.246328 | * 18 47 12.660418 | 18 47 56.239280 | 0.24 |
| 1844+081 | 08 07 15.53478 | * 08 10 35.38871 | 08 11 44.49550 | 0.43 |
| * J2113+4012 | 21 11 33.260021 | * 21 13 29.486338 | 21 14 05.090306 | 0.79 |
| 2111+400 | 40 00 25.23968 | * 40 12 51.38819 | 40 16 27.57976 | 0.69 |
| * J2202+4216 | 22 00 39.362504 | * 22 02 43.291371 | 22 03 21.003970 | 0.14 |
| BLLAC | 42 02 08.59073 | * 42 16 39.97987 | 42 20 48.81973 | 0.10 |
| * J2253+1608 | 22 51 29.519738 | * 22 53 57.747937 | 22 54 41.733874 | 0.68 |
| 3C454.3 | 15 52 54.34810 | * 16 08 53.56093 | 16 13 32.26397 | 0.72 |

EFFECT OF SOLAR CORONA

The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) | Source | Sun distance (deg) |
|---|---|---|---|
| SN2014BC | 73.9 | DA193 | 16.9 |
| TVLM513 | 114.2 | 4C39.25 | 43.6 |
| J1504+2218 | 115.1 | J1038+0512 | 66.2 |
| V1285AQL | 146.6 | 1156+295 | 75.9 |
| J1844+1140 | 144.1 | J1203+4803 | 71.2 |
| V1396CYG | 105.6 | J1219+4829 | 73.6 |
| J2115+3742 | 105.6 | J1310+3220 | 88.7 |
| V596CAS | 56.5 | J1455+2131 | 114.1 |
| J0151+5454 | 57.1 | J1847+0810 | 147.4 |
| RYSEX | 65.6 | J2113+4012 | 103.9 |
| J1035+0522 | 65.2 | J2202+4216 | 95.7 |
| J0147+5840 | 58.0 | J2253+1608 | 101.0 |

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
that the Sun will cause amplitude reductions on the longest VLBA baselines
at a solar distance of 60deg F^(-0.6) where F is in GHz.
For common VLBI bands, this is:

| | |
|---|---|
| 327 MHz | 117. deg |
| 610 MHz | 81. deg |
| 1.6 GHz | 45. deg |
| 2.3 GHz | 36. deg |
| 5.0 GHz | 23. deg |
| 8.4 GHz | 17. deg |
| 15.0 GHz | 12. deg |
| 22.0 GHz | 9. deg |
| 43.0 GHz | 6. deg |

# rk07bftr

RadioAstron Maser observations

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Observing mode: K-band, dual-pol

Schedule for TORUN (Code Tr ) Page 2

RadioAstron Maser observations

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 30 Jun 2014 Day 181 --- | | | | | | | | | | |
| ---------- This is a fringe finder/clock offset calibrator 10.7 deg. from RT_VIR_H2O ---------- | | | | | | | | | | |
| Next scan frequencies: | | 22228.00 | 22228.00 | 22228.00 | 22228.00 | | | | | |
| Next BBC frequencies: | | 728.00 | 728.00 | 728.00 | 728.00 | | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | | | | | |
| 15 50 00 | 1228+126 | 11 38 48 | 47.9 | 160.6 | -0.9 | | -11.8 | 0 | 0 | 15 50 00 |
| 15 55 00 | --- | 11 43 49 | 48.1 | 162.4 | -0.8 | | -10.7 | 300 | 10 | 15 50 01 |
| ---------- Please, make sure PCAL is OFF for RT_VIR_H2O maser observations. ---------- | | | | | | | | | | |
| 16 00 00 | RT_VIR_H2O | 11 48 49 | 39.6 | 155.6 | -1.2 | | -14.4 | 253 | 10 | 16 00 00 |
| 16 19 30 | --- | 12 08 23 | 40.7 | 161.8 | -0.9 | | -10.9 | 1170 | 47 | 16 00 01 |
| 16 20 00 | RT_VIR_H2O | 12 08 53 | 40.7 | 162.0 | -0.9 | | -10.8 | 24 | 47 | 16 20 00 |
| 16 40 00 | --- | 12 28 56 | 41.5 | 168.5 | -0.6 | | -6.9 | 1200 | 85 | 16 20 01 |

```
SETUP FILE INFORMATION:

 ======== Setup file: ra1cm2.set
   Matching groups in ./rk07bf_freq.dat:
     tr1cm

   Setup group:    1         Station: TORUN            Total bit rate:   256
   Format: MKIV1:4           Bits per sample: 2        Sample rate: 32.000
   Number of channels:  4    DBE type:                 Speedup factor:   1.00

   Disk used to record data.

   1st LO=  21500.00  21500.00  21500.00  21500.00
   Net SB=         L         L         U         U
   IF SB =         U         U         U         U
   Pol.  =      RCP       LCP       RCP       LCP
   BBC   =         1         2         1         2
   BBC SB=         L         L         U         U
   IF    =        C         A         C         A

  The following frequency sets based on these setups were used.

   Frequency Set:   5  Setup file default.  Used with PCAL = off
   LO sum=   22228.00  22228.00  22228.00  22228.00
   BBC fr=     728.00    728.00    728.00    728.00
   Bandwd=      16.00     16.00     16.00     16.00
    Matching frequency sets:   5

   Track assignments are:    track1=   2, 18,  3, 19    barrel=roll_off



 POSITIONS OF SOURCES USED IN RECORDING SCANS

   Source                        Source position (RA/Dec)                        Error
                        (B1950)             (J2000)             (Date)            (mas)
 * RT_VIR_H2O        13 00 05.859076   * 13 02 37.980000     13 03 22.684367       0.00
                     05 27 14.76109    * 05 11 08.40000      05 06 31.24170        0.00

 * 1228+126          12 28 17.569280   * 12 30 49.423382     12 31 33.760407       0.00
   J1230+1223        12 40 01.74883    * 12 23 28.04365      12 18 43.85132        0.00


EFFECT OF SOLAR CORONA

  The solar corona can cause unstable phases for sources too close to the Sun.
  SCHED provides warnings at individual scans for distances less than 10 degrees.
  The distance from the Sun to each source in this schedule is:
    Source         Sun distance (deg)
   RT_VIR_H2O          93.7
   1228+126            83.7
```

# rk01h4tr

RadioAstron AGN Survey

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Observing mode: C-band, dual-pol

Schedule for TORUN (Code Tr ) Page 2

RadioAstron AGN Survey

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 30 Jun 2014 Day 181 --- | | | | | | | | | | |
| Next scan frequencies: | | 4836.00 | 4836.00 | 4836.00 | 4836.00 | | | | | |
| Next BBC frequencies: | | 736.00 | 736.00 | 736.00 | 736.00 | | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | | | | | |
| 18 00 00 | 1253-055 | 13 49 09 | 30.0 | 195.0 | 0.9 | | 9.0 | 0 | 0 | 18 00 00 |
| 18 19 30 | --- | 14 08 42 | 29.1 | 200.5 | 1.2 | | 12.2 | 1170 | 37 | 18 00 01 |
| 18 20 00 | 1253-055 | 14 09 12 | 29.1 | 200.7 | 1.2 | | 12.3 | 24 | 37 | 18 20 00 |
| 18 40 00 | --- | 14 29 16 | 27.9 | 206.2 | 1.5 | | 15.4 | 1200 | 76 | 18 20 01 |

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: ra6cm2.set
--- WARNING --- This group does not match an entry in the frequency catalog.
This might be ok because the catalog is not complete.
But be very careful to be sure that the setup is correct.

Setup group: 1 Station: TORUN Total bit rate: 256
Format: MKIV1:4 Bits per sample: 2 Sample rate: 32.000
Number of channels: 4 DBE type: Speedup factor: 1.00

Disk used to record data.

```
  1st LO=   4100.00   4100.00   4100.00   4100.00
  Net SB=         L         L         U         U
  IF SB =         U         U         U         U
  Pol.  =       RCP       LCP       RCP       LCP
  BBC   =         1         2         1         2
  BBC SB=         L         L         U         U
  IF    =         C         A         C         A

 The following frequency sets based on these setups were used.

  Frequency Set:   2  Setup file default.  Used with PCAL = 1MHz
  LO sum=   4836.00  4836.00  4836.00  4836.00
  BBC fr=    736.00   736.00   736.00   736.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   2

  Track assignments are:
   track1=   2, 18,  3, 19
   barrel=roll_off



POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                          Source position (RA/Dec)                          Error
                       (B1950)             (J2000)             (Date)             (mas)

* 1253-055          12 53 35.831289   * 12 56 11.166557     12 56 56.910096       0.00
  J1256-0547       -05 31 07.99603    *-05 47 21.52489     -05 52 04.87007       0.00


EFFECT OF SOLAR CORONA

 The solar corona can cause unstable phases for sources too close to the Sun.
 SCHED provides warnings at individual scans for distances less than 10 degrees.
 The distance from the Sun to each source in this schedule is:
   Source         Sun distance (deg)
  1253-055            96.5

 Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
 that the Sun will cause amplitude reductions on the  longest VLBA baselines
 at a solar distance of 60deg F^(-0.6) where F is in GHz.
 For common VLBI bands, this is:
      1.6 GHz         45. deg
      2.3 GHz         36. deg
      5.0 GHz         23. deg
      8.4 GHz         17. deg
     15.0 GHz         12. deg
     22.0 GHz          9. deg
```

# rk07bgtr

## RadioAstron Maser observations

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Observing mode: K-band, dual-pol

Schedule for TORUN (Code Tr ) Page 2
RadioAstron Maser observations
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 30 Jun 2014 Day 181 --- | | | | | | | | | | |
| ---------- This is a fringe finder/clock offset calibrator 9.5 deg. from IRAS15193+3132_H2O --------- | | | | | | | | | | |
| Next scan frequencies: | | 22228.00 | 22228.00 | 22228.00 | 22228.00 | | | | | |
| Next BBC frequencies: | | 728.00 | 728.00 | 728.00 | 728.00 | | | | | |
| Next scan bandwidths: | | 16.00 | 16.00 | 16.00 | 16.00 | | | | | |
| 19 50 00 | 1604+315 | 15 39 27 | 67.7 | 164.5 | -0.5 | -10.8 | 0 | 0 | 19 50 00 | |
| 19 55 00 | --- | 15 44 28 | 67.9 | 167.3 | -0.4 | -8.9 | 300 | 10 | 19 50 01 | |
| ---------- Please, make sure PCAL is OFF for IRAS15193+3132_H2O maser observations. ---------- | | | | | | | | | | |
| 20 00 00 | IRAS15193+31 | 15 49 29 | 67.7 | 195.6 | 0.5 | 10.9 | 233 | 10 | 20 00 00 | |
| 20 29 30 | =IRAS1519 | 16 19 04 | 65.9 | 211.0 | 1.0 | 21.2 | 1770 | 66 | 20 00 01 | |
| 20 30 00 | IRAS15193+31 | 16 19 34 | 65.9 | 211.3 | 1.0 | 21.4 | 23 | 66 | 20 30 00 | |
| 21 00 00 | =IRAS1519 | 16 49 39 | 63.1 | 224.7 | 1.5 | 29.7 | 1800 | 124 | 20 30 01 | |

SETUP FILE INFORMATION:

======== Setup file: ra1cm2.set
Matching groups in ./rk07bg_freq.dat:
tr1cm

Setup group: 1 Station: TORUN Total bit rate: 256
Format: MKIV1:4 Bits per sample: 2 Sample rate: 32.000
Number of channels: 4 DBE type: Speedup factor: 1.00

Disk used to record data.

```
  1st LO=  21500.00  21500.00  21500.00  21500.00
  Net SB=         L         L         U         U
  IF SB =         U         U         U         U
  Pol.  =      RCP       LCP       RCP       LCP
  BBC   =         1         2         1         2
  BBC SB=         L         L         U         U
  IF    =        C         A         C         A

 The following frequency sets based on these setups were used.

  Frequency Set:   2  Setup file default.  Used with PCAL = off
  LO sum=   22228.00  22228.00  22228.00  22228.00
  BBC fr=     728.00    728.00    728.00    728.00
  Bandwd=      16.00     16.00     16.00     16.00
   Matching frequency sets:   2

  Track assignments are:
   track1=   2, 18,  3, 19
   barrel=roll_off


 POSITIONS OF SOURCES USED IN RECORDING SCANS

  Source                        Source position (RA/Dec)                        Error
                      (B1950)            (J2000)            (Date)            (mas)

* IRAS15193+31      15 19 21.526559   * 15 21 23.956080     15 22 00.646127       0.00
  IRAS1519          31 32 45.29719    * 31 22 02.57300      31 19 11.21475        0.00

* 1604+315          16 04 10.611566   * 16 06 08.518385     16 06 44.152704       0.00
  J1606+3124        31 32 47.72177    * 31 24 46.45776      31 22 42.01683        0.00


EFFECT OF SOLAR CORONA

 The solar corona can cause unstable phases for sources too close to the Sun.
 SCHED provides warnings at individual scans for distances less than 10 degrees.
 The distance from the Sun to each source in this schedule is:
   Source         Sun distance (deg)
  IRAS15193+31       108.0
  1604+315           114.4

 Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
 that the Sun will cause amplitude reductions on the  longest VLBA baselines
 at a solar distance of 60deg F^(-0.6) where F is in GHz.
 For common VLBI bands, this is:
      1.6 GHz         45. deg
      2.3 GHz         36. deg
      5.0 GHz         23. deg
      8.4 GHz         17. deg
     15.0 GHz         12. deg
     22.0 GHz          9. deg
```

# rk07bhtr

RadioAstron Maser observations

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Observing mode: K-band, dual-pol

Schedule for TORUN (Code Tr ) Page 2
RadioAstron Maser observations
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this point.
TPStart: Recording start time. Frequencies are LO sum (band edge).
SYNC: Time correlator is expected to sync up.

| Start UT / Stop UT | Source | LST | EL | AZ | HA | UP | ParA | Early Dwell | Disk GBytes | TPStart SYNC |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Mon 30 Jun 2014 Day 181 --- | | | | | | | | | | |
| ---------- This is a fringe finder/clock offset calibrator 10.7 deg. from RT_VIR_H2O ---------- | | | | | | | | | | |
| Next scan frequencies: | 22228.00 | 22228.00 | 22228.00 | 22228.00 | | | | | | |
| Next BBC frequencies: | 728.00 | 728.00 | 728.00 | 728.00 | | | | | | |
| Next scan bandwidths: | 16.00 | 16.00 | 16.00 | 16.00 | | | | | | |
| 22 10 00 | 1228+126 | 17 59 50 | 14.6 | 271.2 | 5.5 | | 37.9 | 0 | 0 | 22 10 00 |
| 22 15 00 | --- | 18 04 51 | 13.8 | 272.2 | 5.6 | | 37.9 | 300 | 10 | 22 10 01 |
| ---------- Please, make sure PCAL is OFF for RT_VIR_H2O maser observations. ---------- | | | | | | | | | | |
| 22 20 00 | RT_VIR_H2O | 18 09 52 | 12.1 | 262.3 | 5.1 | | 36.7 | 263 | 10 | 22 20 00 |
| 22 29 30 | --- | 18 19 23 | 10.7 | 264.2 | 5.3 | | 36.9 | 570 | 28 | 22 20 01 |
| 22 30 00 | RT_VIR_H2O | 18 19 54 | 10.6 | 264.4 | 5.3 | | 36.9 | 24 | 28 | 22 30 00 |
| 22 39 30 | --- | 18 29 25 | 9.2 | 266.3 | 5.4 | | 37.0 | 570 | 46 | 22 30 01 |
| 22 40 00 | RT_VIR_H2O | 18 29 55 | 9.1 | 266.4 | 5.4 | | 37.0 | 24 | 46 | 22 40 00 |
| 22 49 30 | --- | 18 39 27 | 7.7 | 268.3 | 5.6 | | 37.1 | 570 | 64 | 22 40 01 |
| 22 50 00 | RT_VIR_H2O | 18 39 57 | 7.6 | 268.4 | 5.6 | | 37.1 | 24 | 64 | 22 50 00 |
| 23 00 00 | --- | 18 49 58 | 6.1 | 270.4 | 5.8 | | 37.1 | 600 | 84 | 22 50 01 |

SETUP FILE INFORMATION:
NOTE: If DOPPLER, FREQ, or BW were used, see the individual scans for the final BBC settings.

======== Setup file: ra1cm2.set
Matching groups in ./rk07bh_freq.dat:
tr1cm

Setup group: 1 Station: TORUN Total bit rate: 256
Format: MKIV1:4 Bits per sample: 2 Sample rate: 32.000
Number of channels: 4 DBE type: Speedup factor: 1.00

Disk used to record data.

| | | | | |
|---|---|---|---|---|
| 1st LO= | 21500.00 | 21500.00 | 21500.00 | 21500.00 |
| Net SB= | L | L | U | U |
| IF SB = | U | U | U | U |
| Pol. = | RCP | LCP | RCP | LCP |
| BBC = | 1 | 2 | 1 | 2 |
| BBC SB= | L | L | U | U |
| IF = | C | A | C | A |

The following frequency sets based on these setups were used.

Frequency Set: 2 Setup file default. Used with PCAL = off

| | | | | |
|---|---|---|---|---|
| LO sum= | 22228.00 | 22228.00 | 22228.00 | 22228.00 |
| BBC fr= | 728.00 | 728.00 | 728.00 | 728.00 |
| Bandwd= | 16.00 | 16.00 | 16.00 | 16.00 |

Matching frequency sets: 2

Track assignments are:
track1= 2, 18, 3, 19
barrel=roll_off

## POSITIONS OF SOURCES USED IN RECORDING SCANS

| Source | Source position (RA/Dec) (B1950) | (J2000) | (Date) | Error (mas) |
|---|---|---|---|---|
| * RT_VIR_H2O | 13 00 05.859076 | * 13 02 37.980000 | 13 03 22.681070 | 0.00 |
| | 05 27 14.76109 | * 05 11 08.40000 | 05 06 31.26149 | 0.00 |
| * 1228+126 | 12 28 17.569280 | * 12 30 49.423382 | 12 31 33.757047 | 0.00 |
| 3C274 | 12 40 01.74883 | * 12 23 28.04365 | 12 18 43.86985 | 0.00 |

## EFFECT OF SOLAR CORONA

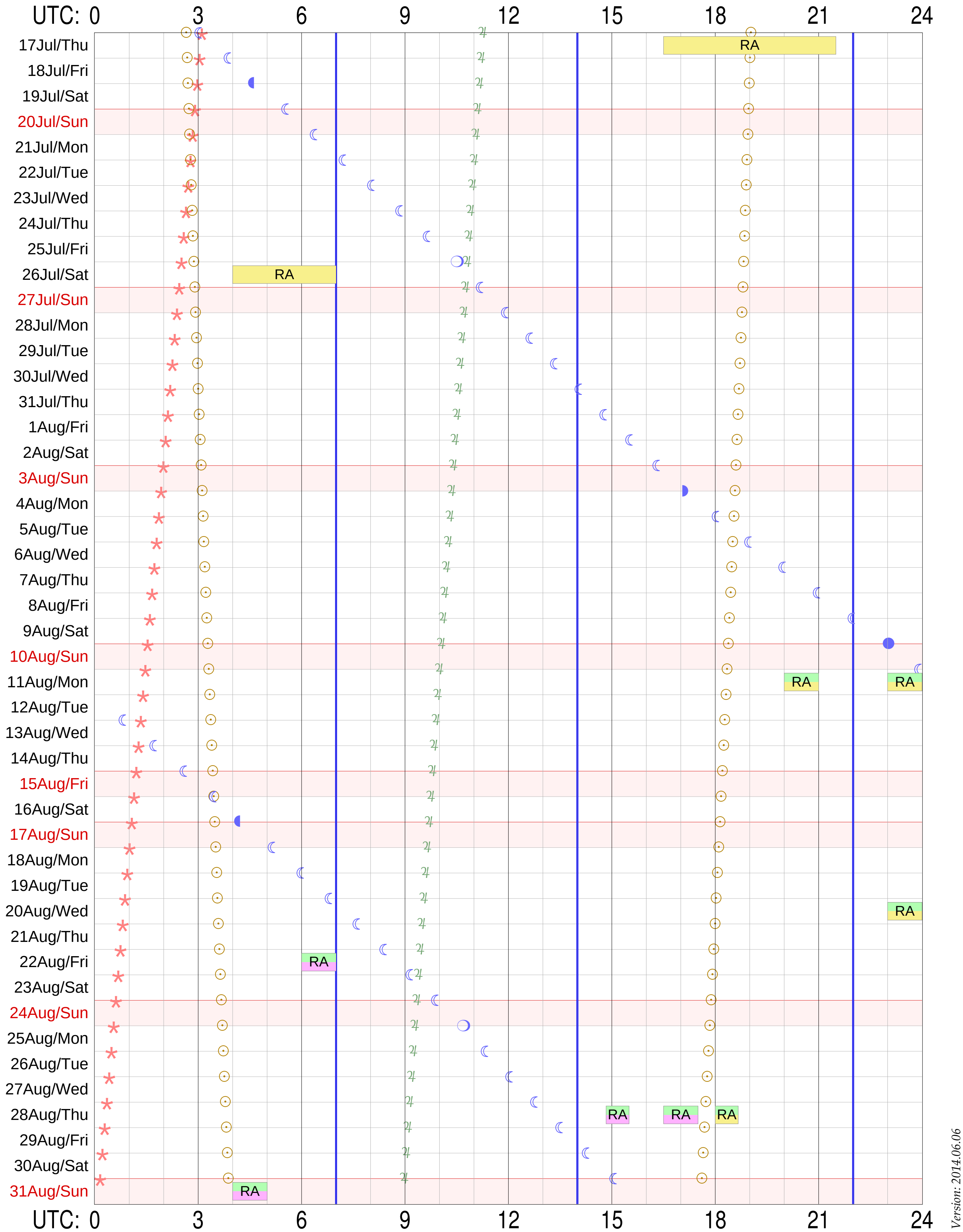
The solar corona can cause unstable phases for sources too close to the Sun.
SCHED provides warnings at individual scans for distances less than 10 degrees.
The distance from the Sun to each source in this schedule is:

| Source | Sun distance (deg) |
|---|---|
| RT_VIR_H2O | 93.5 |
| 1228+126 | 83.4 |

Barry Clark estimates from predictions by Ketan Desai of IPM scattering sizes
that the Sun will cause amplitude reductions on the longest VLBA baselines
at a solar distance of 60deg F^(-0.6) where F is in GHz.
For common VLBI bands, this is:

| | |
|---|---|
| 1.6 GHz | 45. deg |
| 2.3 GHz | 36. deg |
| 5.0 GHz | 23. deg |
| 8.4 GHz | 17. deg |
| 15.0 GHz | 12. deg |
| 22.0 GHz | 9. deg |

# Provisional plan for Jul/Aug 2014




L-band | C1- or C-band | C2- or M-band | K-band | Band undefined

Sky events at Tr: ☉ Sunrise & sunset ◐◑●◖☾ Transit of Moon ♃ Transit of Jupiter * Transit of Aries (0h ST)

Vertical lines in blue mark operator shift times at Tr

*Total observing time: 15.3 hours in 10 experiments scheduled*

# Plan użycia *disk-packów* na Mark5B w sesji EVN 2/2014

(*wersja 1.3*, 2014.06.06)

| Projekt | Corr. | Zapotrzebowanie ----TB--- | Packi Bank A -----VSN/GB-- | Packi Bank B -----VSN/GB-- | Uwagi |
|---|---|---|---|---|---|
| | **L-band** | | | | |
| f14l2 | EVN | 0.201 | MPI+1607/16000 | | 2 x ftp |
| ep087g | EVN | 2.564 | MPI+1607/16000 | | |
| el051a | EVN | 3.450 | MPI+1607/16000 | | zostaje 9.785 TB -> |
| ec048 | EVN | 1.270 | MPI-0502/4000 | | |
| ep088e | EVN | 5.062 | WSRT-072/4000 | WSRT-063/2000 | |
| n14l2 | EVN | 0.581 | --- | WSRT-063/2000 | 4 x ftp (zostaje 357 GB)-> |
| rk01g7 | RA | 0.057 | TR-00008/2000 | <-- na Mark5A | RA (L->C1) |
| el048a | EVN | 4.503 | WSRT-076/4000 | NRAO-055/2000 | |
| eh031 | EVN | 4.328 | JOD-0050/6000[4500] | | zostaje 172 GB |
| rk01g9 | RA | 0.057 | TR-00008/2000 | <-- na Mark5A | RA (L->C1) |
| gs032d | Bonn | 1.399 | USN-0203/2000 | | Korelator Bonn, e-ship(?) |
| eg078b | EVNs | 10.662 | MPI+1607/16000 | MPI-0512/4000 | zostalo 3.376 TB |
| | **C-band** | | | | |
| f14c2 | EVN | 0.174 | --- | MPI-0512/4000 | 2 x ftp |
| ep087h | EVN | 2.590 | MPI-0502/4000 | | zostaje 140 GB |
| ep088f | EVN | 5.231 | WSRT-067/4000 | MPI-0512/4000 | |
| n14c2 | EVN | 0.608 | --- | MPI-0512/4000 | 4 x ftp; zostaje <1361 GB |
| el048b | EVN | 4.529 | MPI+1206/6000 | | zostaje 1.471 TB -> |
| el051b | EVN | 3.442 | MPI-0523/4000 | | zostaje 558 GB -> |
| | **M-band** | | | | |
| f14m2 | EVN | 0.045 | MPI-0523/4000 | | 2 x ftp |
| gp051a | EVN | 0.285 | MPI-0523/4000 | | |
| es072h | EVN | 0.081 | MPI-0523/4000 | | zostaje 147 GB |
| gp051b | EVN | 0.285 | MPI+1206/6000 | | |
| n14m2 | EVN | 0.608 | MPI+1206/6000 | | 4 x ftp |
| es072i | EVN | 0.081 | MPI+1206/6000 | | |
| gp051c | EVN | 0.285 | MPI+1206/6000 | | |
| es072j | EVN | 0.081 | MPI+1206/6000 | | zostaje 131 GB |
| gp051d | EVN | 0.266 | --- | MPI-0512/4000 | |
| es072k | EVN | 0.082 | --- | MPI-0512/4000 | |
| ec044 | EVN | 0.905 | --- | MPI-0512/4000 | zostaje 110 GB |
| | **K-band** | | | | |
| n14k2 | EVN | 1.262 | --- | NRAO-055/2000 | 3 x ftp (zostaje 235 GB) |
| es074a | EVN | 0.155 | JOD-0050/6000[4500] | | zostalo 43 GB |
| er035b | EVN | 3.977 | SHA0-032/4000 | | |

Rezerwa: JOD-0038/3200, HART-041/3200, MED-0007/2000, UAO-0016/2000 oraz TR-00002/1600 *(UWAGA: niektóre mogą zawierać dane RA)*;
JIVE-055/2000 jest częściowo nagrany (na Mark5A; kwietniowy global RA)

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