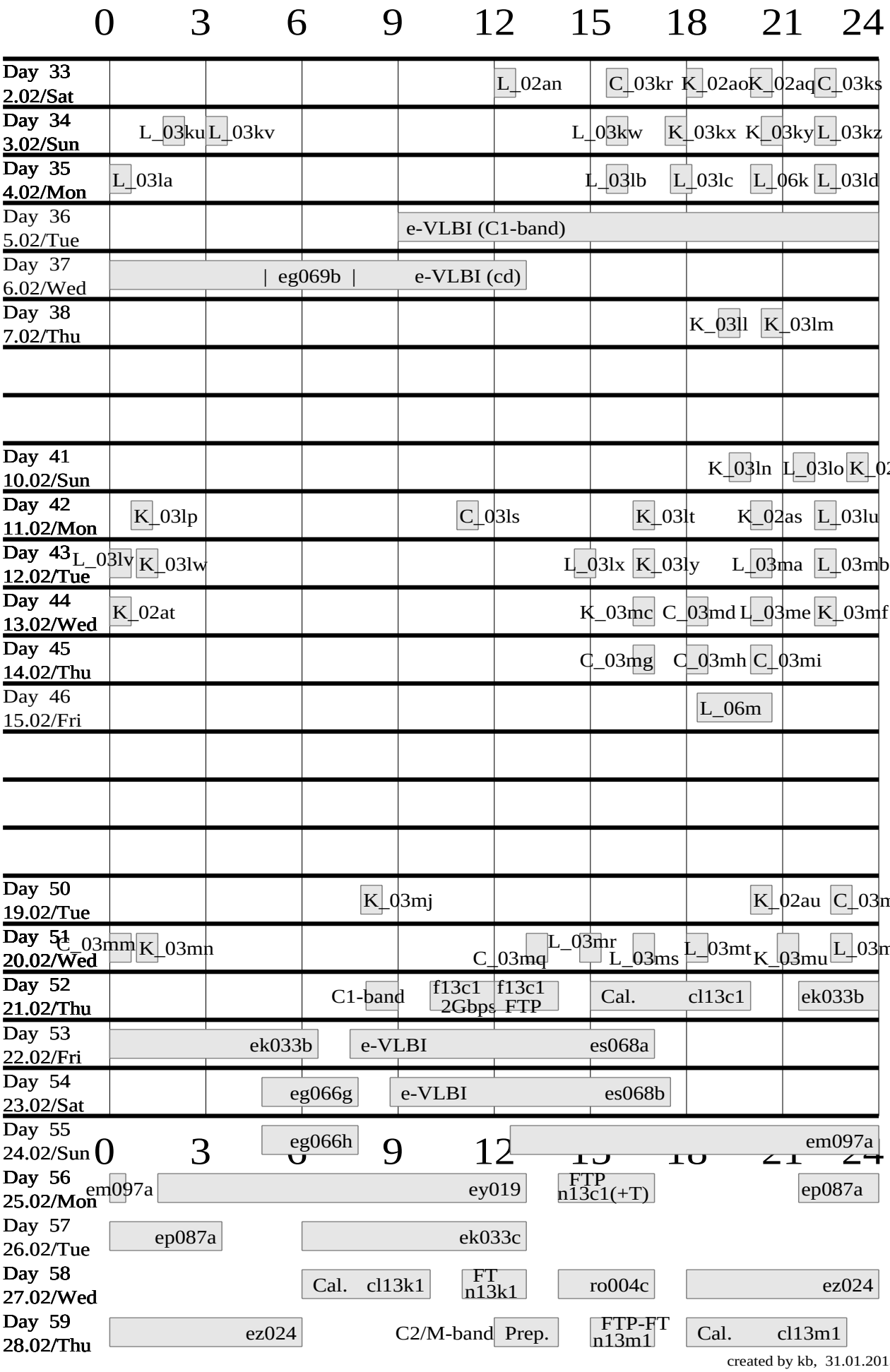
RadioAstron Schedule for Tr in Feb 2013

(Nazwy eksp. RA zmieniono z re* na L_*, C_* lub K_*)



created by kb, 31.01.2013

RadioAstron Sessions, Feb 2013 r.

Użytkownik i haslo ftp dla logów i schedules: `grt K0&th%`
`ftp://webinet.asc.rssi.ru`
Przykład dla log files: `cd GRT_log_files/2013_01/2013_01_10_raes03jj`
Przykład dla sched files: `cd schedule/grtsched/RAES/re03jj`

Observational code: raes02an
Effelsberg project: 93-11
Task: OH maser observations
Start(UT): 02.02.2013 12:00:00
Stop(UT) : 02.02.2013 12:40:00
Band: LL
Source: W3OH_OH
GRT: Mc(L), Ef(L), Tr(L)

Observational code: raes03kr
Task: AGN fringe survey
Start(UT): 02.02.2013 15:30:00
Stop(UT) : 02.02.2013 16:10:00
Band: CL
Source: 0529+483
GRT: Wb(L), Ys(C), Mc(L), Tr(C)

Observational code: raes02ao
Task: H2O maser observations
Start(UT): 02.02.2013 18:00:00
Stop(UT) : 02.02.2013 18:30:00
Band: KK
Source: W3IRS5_H2O
GRT: Nt(K), Ys(K), Tr(K)
Comments: central frequency 22228 MHz

Observational code: raes02aq
Task: H2O maser observations
Start(UT): 02.02.2013 20:00:00
Stop(UT) : 02.02.2013 20:40:00
Band: KK
Source: ORION_H2O
GRT: Ro(K), Ys(K), Nt(K), Tr(K)
Comments: central frequency 22228 MHz

Observational code: raes03ks
Task: AGN fringe survey
Start(UT): 02.02.2013 22:00:00
Stop(UT) : 02.02.2013 22:40:00
Band: CK
Source: 0529+483
GRT: Nt(K), Ys(K), Mc(C), Ro(K), Tr(C)

Observational code: raes03ku
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 03.02.2013 01:40:00
Stop(UT) : 03.02.2013 02:20:00
Band: CL
Source: 1226+023 (3C273)
GRT: Ef(L), Ys(C), Mc(C), Tr(L)

Observational code: raes03kv
GBT project: 12B-262, 13A-252
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 03.02.2013 03:00:00
Stop(UT) : 03.02.2013 03:40:00
Band: CL
Source: 1101+384
GRT: Gb(C), Ef(L), Ys(C), Mc(C), Tr(L)

Observational code: raes03kw
Task: AGN fringe survey
Start(UT): 03.02.2013 15:30:00
Stop(UT) : 03.02.2013 16:10:00
Band: CL
Pcal: ON, noise diode: ON
GRT: Ev(C), Ys(C), Mc(L), Tr(L)

Observational code: raes03kx
Task: AGN fringe survey
Start(UT): 03.02.2013 17:20:00
Stop(UT) : 03.02.2013 18:00:00
Band: CK
Source: 0355+508
GRT: Nt(K), Ev(C), Ys(C), Mc(C), Tr(K)

Observational code: raes03ky
Task: AGN fringe survey
Start(UT): 03.02.2013 20:20:00
Stop(UT) : 03.02.2013 21:00:00
Band: CK
Source: 0607-157
GRT: Nt(K), Ev(C), Ys(C), Mc(C), Ro(K), Tr(K)

Observational code: raes03kz
Task: AGN fringe survey
Start(UT): 03.02.2013 22:00:00
Stop(UT) : 03.02.2013 22:40:00
Band: LL
Source: 0529+483
GRT: Ev(L), Ro(L), Tr(L)

Observational code: raes03la
Arecibo project: V2691, V2733
GBT project: 12B-262, 13A-252
Task: AGN fringe survey
Start(UT): 04.02.2013 00:00:00
Stop(UT) : 04.02.2013 00:40:00
Band: CL
Source: 0536+145
GRT: Ar(L), Gb(C), Ys(C), Mc(C), Ro(L), Tr(L)

```
Observational code: raes03lb
Task: AGN fringe survey
Start(UT): 04.02.2013 15:30:00
Stop(UT) : 04.02.2013 16:10:00
Band: CL
Source: 0529+483
GRT: Wb(L), Ys(C), Nt(C), Sv(C), Zc(C), Bd(L), Tr(L)

Observational code: raes03lc
Task: AGN fringe survey
Start(UT): 04.02.2013 17:30:00
Stop(UT) : 04.02.2013 18:10:00
Band: CL
Source: 0657+172
GRT: Nt(C), Ys(C), Sv(C), Zc(C), Bd(L), Mc(L), Tr(L)

Observational code: raes06k
Task: pulsar observations
Start(UT): 04.02.2013 20:00:00
Stop(UT) : 04.02.2013 20:40:00
Band: LL
Source: CRAB
GRT: Mc(L), Tr(L)

Observational code: raes03ld
Task: AGN fringe survey
Start(UT): 04.02.2013 22:00:00
Stop(UT) : 04.02.2013 22:40:00
Band: CL
Source: 0735+178
GRT: Nt(C), Ys(C), Mc(L), Sv(C), Zc(C), Tr(L)

Observational code: raes03ll
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 07.02.2013 19:00:00
Stop(UT) : 07.02.2013 19:40:00
Band: CL
Source: 0748+126
GRT: Ef(K->C), Wb(C), Nt(K), Ev(C), Ys(K), Mc(C), Tr(K)

Observational code: raes03lm
Task: AGN fringe survey
Start(UT): 07.02.2013 20:20:00
Stop(UT) : 07.02.2013 21:00:00
Band: CK
Source: 0607-157
GRT: Wb(C), Nt(K), Ev(C), Ys(K), Mc(C), Tr(K)

Observational code: raes03ln
GBT project: 12B-262, 13A-252
Task: AGN fringe survey
Start(UT): 10.02.2013 19:20:00
Stop(UT) : 10.02.2013 20:00:00
Band: CK
Source: 0355+508
GRT: Gb(K), Nt(K), Ev(C), Ys(K), Mc(C), Ro(K), Tr(K)

Observational code: raes03lo
GBT project: 12B-262, 13A-252
Task: AGN fringe survey
Start(UT): 10.02.2013 21:20:00
Stop(UT) : 10.02.2013 22:00:00
Band: LK
Source: 0716+714
GRT: Gb(K), Wb(L), Ev(L), Ys(K), Ro(K), Tr(L)

Observational code: raes02ar
Task: H2O maser observations
Start(UT): 10.02.2013 23:00:00
Stop(UT) : 10.02.2013 23:40:00
Band: KK
Source: VYCMA_H2O
GRT: Nt(K), Ro(K), Ys(K), Tr(K:23:00-23:30)

Observational code: raes03lp
Task: AGN fringe survey
Start(UT): 11.02.2013 00:40:00
Stop(UT) : 11.02.2013 01:20:00
Band: CK
Source: 1253-055 (3C279)
GRT: Nt(K), Ev(C), Ys(C), Mc(C), Sv(K), Zc(C), Tr(K)

Observational code: raes03ls
GBT project: 12B-262, 13A-252
Task: AGN fringe survey
Start(UT): 11.02.2013 10:50:00
Stop(UT) : 11.02.2013 11:30:00
Band: CK
Source: 1611+343
GRT: Gb(K), Nt(K), Ys(C), Mc(C), Tr(C)

Observational code: raes03lt
Task: AGN fringe survey
Start(UT): 11.02.2013 16:20:00
Stop(UT) : 11.02.2013 17:00:00
Band: CK
Source: 0355+508
GRT: Nt(K), Ys(C), Mc(C), Tr(K)

Observational code: raes02as
Task: H2O maser observations
Start(UT): 11.02.2013 20:00:00
Stop(UT) : 11.02.2013 20:40:00
Band: KK
Source: ORION_H2O
GRT: Ro(K), Ys(K), Nt(K), Tr(K)

Observational code: raes03lu
Task: AGN fringe survey
Start(UT): 11.02.2013 22:00:00
Stop(UT) : 11.02.2013 22:40:00
Band: CL
Source: 0754+100
GRT: Wb(L), Ys(C), Mc(C), Tr(L)

Observational code: raes03lv
Task: AGN fringe survey
Start(UT): 12.02.2013 00:00:00
Stop(UT) : 12.02.2013 00:40:00
Band: CL
Source: 1253-055 (3C279)
GRT: Ys(C), Mc(C), Tr(L)

Observational code: raes03lw
Task: AGN fringe survey
Start(UT): 12.02.2013 00:50:00
Stop(UT) : 12.02.2013 01:30:00
Band: CK
Source: 1334-127
GRT: Nt(K), Ys(C), Mc(C), Tr(K)
```

Observational code: raes03lx
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 12.02.2013 14:30:00
Stop(UT) : 12.02.2013 15:10:00
Band: CL
Source: 0716+714
GRT: Ef(L), Ev(C), Ys(C), Mc(C), Zc(C), Bd(L), Tr(L)

Observational code: raes03ly
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 12.02.2013 16:20:00
Stop(UT) : 12.02.2013 17:00:00
Band: CK
Source: 0355+508
GRT: Ef(K->C), Wb(C), Nt(K), Ev(C), Mc(C), Tr(K)

Observational code: raes03ma
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 12.02.2013 20:00:00
Stop(UT) : 12.02.2013 20:40:00
Band: CL
Source: 0700-007
GRT: Ef(L), Wb(C), Ys(C), Mc(C), Ro(L), Tr(L)

Observational code: raes03mb
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 12.02.2013 22:00:00
Stop(UT) : 12.02.2013 22:40:00
Band: CL
Source: 0754+100
GRT: Ef(L), Wb(C), Ys(C), Mc(C), Ro(L), Tr(L)

Observational code: raes02at
Arecibo project: V2732
Task: Hydroxyl and H2O maser observations
Start(UT): 13.02.2013 00:00:00
Stop(UT) : 13.02.2013 00:40:00
Band: KL
Source: S269_H2O
GRT: Sv(L), Ro(K), Nt(K), Ar(L), Tr(K)

Observational code: raes03mc
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 13.02.2013 16:20:00
Stop(UT) : 13.02.2013 17:00:00
Band: CK
Source: 0355+508
GRT: Ef(K->C), Nt(K), Mc(C), Zc(C), Tr(K)

Observational code: raes03md
Task: AGN fringe survey
Start(UT): 13.02.2013 18:00:00
Stop(UT) : 13.02.2013 18:40:00
Band: CL
Source: 0316+413
GRT: Ef(L), Mc(C), Sv(L), Zc(C), Tr(C)

Observational code: raes03me
Task: AGN fringe survey
Start(UT): 13.02.2013 20:00:00
Stop(UT) : 13.02.2013 20:40:00
Band: CL
Source: 0700-007
GRT: Ef(L), Ys(C), Mc(C), Tr(L)

Observational code: raes03mf
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 13.02.2013 22:00:00
Stop(UT) : 13.02.2013 22:40:00
Band: CK
Source: 0754+100
GRT: Ef(K->C), Nt(K), Ys(C), Mc(C), Zc(C), Tr(K)

Observational code: raes03mg
Task: AGN fringe survey
Start(UT): 14.02.2013 16:20:00
Stop(UT) : 14.02.2013 17:00:00
Band: CL
Source: 0355+508
GRT: Wb(L), Ev(C), Ys(C), Tr(C)

Observational code: raes03mh
Task: AGN fringe survey
Start(UT): 14.02.2013 18:00:00
Stop(UT) : 14.02.2013 18:40:00
Band: CL
Source: 0316+413
GRT: Wb(L), Ev(C), Tr(C)

Observational code: raes03mi
Task: AGN fringe survey
Start(UT): 14.02.2013 20:00:00
Stop(UT) : 14.02.2013 20:40:00
Band: CL
Source: 0700-007
GRT: Wb(L), Ev(C), Ys(C), Tr(C)

Observational code: raes06k
Task: pulsar observations
Start(UT): 15.02.2013 18:20:00
Stop(UT) : 15.02.2013 20:40:00
Band: CL
Source: CRAB
GRT: Ys(C), Tr(L)

Observational code: raes03mj
Task: AGN fringe survey
Start(UT): 19.02.2013 07:50:00
Stop(UT) : 19.02.2013 08:30:00
Band: CK
Source: 1611+343
GRT: Ys(K), Zc(C), Tr(K)

Observational code: raes02au
Effelsberg project code: 93-11
Task: H2O maser observations
Start(UT): 19.02.2013 20:00:00
Stop(UT) : 19.02.2013 20:40:00
Band: KK
Source: VYCMA_H2O
GRT: Nt(K), Ro(K), Ys(K), Ef(K), Tr(K)

Observational code: raes03ml
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 19.02.2013 22:30:00
Stop(UT) : 19.02.2013 23:10:00
Band: CL
Source: 1226+023
GRT: Ef(L), Ys(C), Zc(C), Bd(L), Ro(L), Tr(C)

Observational code: raes03mm
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 20.02.2013 00:00:00
Stop(UT) : 20.02.2013 00:40:00
Band: CK
Source: 1253-055 (3C279)
GRT: Ef(K->C), Nt(K), Ys(C), Zc(C), Ro(K), Tr(C)

Observational code: raes03ms
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 20.02.2013 16:20:00
Stop(UT) : 20.02.2013 17:00:00
Band: CL
Source: 0716+714
GRT: Ef(L), Ev(C), Ys(C), Zc(C), Bd(C), Tr(L)

Observational code: raes03mn
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 20.02.2013 00:50:00
Stop(UT) : 20.02.2013 01:30:00
Band: CK
Source: 1334-127
GRT: Ef(K->C), Nt(K), Ys(C), Zc(C), Tr(K)

Observational code: raes03mt
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 20.02.2013 18:00:00
Stop(UT) : 20.02.2013 18:40:00
Band: CL
Source: 0738+313
GRT: Ef(L), Ev(C), Ys(C), Zc(C), Bd(C), Tr(L)

Observational code: raes03mq
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 20.02.2013 13:00:00
Stop(UT) : 20.02.2013 13:40:00
Pcal: ON, noise diode: ON
Source: 0355+508
GRT: Ef(K->C), Nt(K), Ev(C), Sv(K), Zc(C), Tr(C)

Observational code: raes03mu
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 20.02.2013 20:50:00
Stop(UT) : 20.02.2013 21:30:00
Band: CK
Source: 0923+392
GRT: Ef(K->C), Nt(K), Ev(C), Ys(C), Tr(C)

Observational code: raes03mr
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 20.02.2013 14:40:00
Stop(UT) : 20.02.2013 15:20:00
Band: CL
Source: 0446+112
GRT: Ef(L), Wb(C), Ev(C), Zc(C), Tr(L)

Observational code: raes03mv
Effelsberg project: 97-11, 53-12
Task: AGN fringe survey
Start(UT): 20.02.2013 22:30:00
Stop(UT) : 20.02.2013 23:10:00
Band: CL
Source: 1226+023 (3C273)
GRT: Ef(L), Ev(C), Ys(C), Zc(C), Bd(C), Ro(L), Tr(L)

*** General comments: ***

All experiments are observed on the ground with 16 MHz wide IFs and
2 bit sampling.

Central frequencies:

P-band: 316.00 MHz (USB only)
L-band: 1668.00 MHz (USB and LSB)
C-band: 4836.00 MHz (USB and LSB)
K-band: 22236.00 MHz (USB and LSB)

==========

Bands:
Nt: K-band only, except: Feb4 late evening (C-band), Feb7 K or C
Mc: no K-band
Mc and Nt may observe in the EVN gaps. For Nt the band must match the EVN band.
Tr: any band for any experiment. Quick band changes!!

Warning! In the case _if_ masers want different central frequencies, we should have
(following specific "Comments" in the schedule above):
L-band: 1660.00 MHz (USB and LSB)
K-band: 22228.00 MHz (USB and LSB)

==========

re02antr

RadioAstron OH maser observations

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```
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```


```
Observing mode: L-band, dual-pol

Notes:    L-band, Radioastron-compatible frequency setup


Schedule for TORUN     (Code Tr )                                    Page   2
              RadioAstron OH 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------

 --- Sat   2 Feb 2013   Day  33 ---

 ---------- Please, make sure PCAL is OFF for W3OH_OH maser observations. ----------

 Next scan frequencies:  1660.00  1660.00  1660.00  1660.00
 Next BBC frequencies:    640.00   640.00   640.00   640.00
 Next scan bandwidths:     16.00    16.00    16.00    16.00

12 00 00  W3OH_OH      22 05 37  55.3  48.8 -4.4     -73.9     0        0   12 00 00
12 09 30  ---          22 15 09  56.4  49.4 -4.2     -75.6   570       18   12 00 01

12 10 00  W3OH_OH      22 15 39  56.4  49.4 -4.2     -75.7    24       18   12 10 00
12 19 30  ---          22 25 10  57.5  49.9 -4.0     -77.4   570       37   12 10 01

12 20 00  W3OH_OH      22 25 40  57.6  49.9 -4.0     -77.5    24       37   12 20 00
12 29 30  ---          22 35 12  58.7  50.3 -3.9     -79.2   570       55   12 20 01

12 30 00  W3OH_OH      22 35 42  58.8  50.3 -3.9     -79.3    24       55   12 30 00
12 40 00  ---          22 45 44  59.9  50.7 -3.7     -81.2   600       75   12 30 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
   Matching groups in /home/kirx/sched/catalogs/freq.dat:
     tr18cm          E-mail Borkowski 12Mar98, preferred alternative

   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=   2300.00   2300.00   2300.00   2300.00
   Net SB=         L         L         U         U
   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:   3  Setup file default.  Used pcal sets:   1
  LO sum=   1660.00  1660.00  1660.00  1660.00
  BBC fr=    640.00   640.00   640.00   640.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   3

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = OFF
   PCALXB1=   S1    S2    S3    S4    OFF   OFF   OFF   OFF
   PCALXB2=   M1    M2    M3    M4    OFF   OFF   OFF   OFF
   PCALFR1=     0     0     0     0     0     0     0     0
   PCALFR2=     0     0     0     0     0     0     0     0

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



SOURCES USED IN RECORDING SCANS --       RadioAstron OH maser observations
    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)

* W3OH_OH           02 23 16.456199   * 02 27 03.832700     02 28 05.482649       0.00
                    61 38 57.79345    * 61 52 25.26400      61 56 11.34860        0.00



 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)
  W3OH_OH            100.4

 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:
      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
```

re03krtr

RadioAstron AGN fringe survey

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Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 2 Feb 2013 Day 33 ---										
---------- C-band VLBI scans ----------										
Next scan frequencies:	4836.00	4836.00	4836.00	4836.00						
Next BBC frequencies:	636.00	636.00	636.00	636.00						
Next scan bandwidths:	16.00	16.00	16.00	16.00						
15 30 00	0529+483	01 36 12	53.1	72.6	-4.0		-59.6	0	0	15 30 00
15 39 30	---	01 45 43	54.5	73.9	-3.8		-60.3	570	18	15 30 01
15 40 00	0529+483	01 46 13	54.6	74.0	-3.8		-60.4	24	18	15 40 00
15 49 30	---	01 55 45	56.0	75.3	-3.6		-61.0	570	37	15 40 01
15 50 00	0529+483	01 56 15	56.0	75.4	-3.6		-61.1	24	37	15 50 00
15 59 30	---	02 05 46	57.4	76.8	-3.5		-61.7	570	55	15 50 01
16 00 00	0529+483	02 06 17	57.5	76.9	-3.5		-61.7	24	55	16 00 00
16 10 00	---	02 16 18	59.0	78.3	-3.3		-62.3	600	75	16 00 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr6cm E-mail Borkowski 23Apr03 (CR 1May03)

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=	4200.00	4200.00	4200.00	4200.00
Net SB=	L	L	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 pcal sets:   1
  LO sum=   4836.00  4836.00  4836.00  4836.00
  BBC fr=    636.00   636.00   636.00   636.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   2

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --         RadioAstron AGN fringe survey
    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)

  J0533+4822        05 29 27.565383   * 05 33 15.865792     05 34 18.438271       0.15
* 0529+483          48 20 47.97038    * 48 22 52.80771      48 23 25.04648        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)
  0529+483           126.7

 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
      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
```

re02aotr

RadioAstron H2O maser observations

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Observing mode: K-band, dual-pol

Notes: K-band, Radioastron-compatible frequency setup

Schedule for TORUN (Code Tr) Page 2
RadioAstron H2O 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
--- Sat 2 Feb 2013 Day 33 ---										
---------- Please, make sure PCAL is OFF for W3IRS5_H2O maser observations. ----------										
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						
18 00 00	W3IRS5_H2O	04 06 36	74.0	-45.7	1.7		113.1	0	0	18 00 00
18 09 30	---	04 16 08	73.0	-47.1	1.8		109.6	570	18	18 00 01
18 10 00	W3IRS5_H2O	04 16 38	72.9	-47.2	1.8		109.4	24	18	18 10 00
18 19 30	---	04 26 09	71.9	-48.3	2.0		106.2	570	37	18 10 01
18 20 00	W3IRS5_H2O	04 26 40	71.8	-48.4	2.0		106.1	24	37	18 20 00
18 30 00	---	04 36 41	70.7	-49.3	2.2		103.0	600	56	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: ra1cm2.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=	21500.00	21500.00	21500.00	21500.00
Net SB=	L	L	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:   3  Setup file default.  Used pcal sets:   1
  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:   3

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = OFF
   PCALXB1=   S1    S2    S3    S4    OFF   OFF   OFF   OFF
   PCALXB2=   M1    M2    M3    M4    OFF   OFF   OFF   OFF
   PCALFR1=     0     0     0     0     0     0     0     0
   PCALFR2=     0     0     0     0     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --      RadioAstron H2O maser observations
    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)

* W3IRS5_H2O         02 21 53.253968   * 02 25 40.712000     02 26 42.369368       0.00
                     61 52 21.48039    * 62 05 52.52200      62 09 39.63173        0.00



 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)
  W3IRS5_H2O         100.1

 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
```

re02aqtr

RadioAstron H2O maser observations

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Observing mode: K-band, dual-pol

Notes: K-band, Radioastron-compatible frequency setup

Schedule for TORUN (Code Tr) Page 2
RadioAstron H2O 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
--- Sat 2 Feb 2013 Day 33 ---										
---------- Please, make sure PCAL is OFF for ORION_H2O maser observations. ----------										
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					
20 00 00	ORION_H2O	06 06 56	31.2	189.0	0.5		5.4	0	0	20 00 00
20 09 30	---	06 16 28	30.9	191.8	0.7		7.1	570	18	20 00 01
20 10 00	ORION_H2O	06 16 58	30.9	191.9	0.7		7.2	24	18	20 10 00
20 19 30	---	06 26 29	30.6	194.7	0.8		8.8	570	37	20 10 01
20 20 00	ORION_H2O	06 26 59	30.5	194.8	0.9		8.9	24	37	20 20 00
20 29 30	---	06 36 31	30.1	197.5	1.0		10.5	570	55	20 20 01
20 30 00	ORION_H2O	06 37 01	30.1	197.7	1.0		10.5	24	55	20 30 00
20 40 00	---	06 47 03	29.6	200.5	1.2		12.2	600	75	20 30 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
--- 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: 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=	21500.00	21500.00	21500.00	21500.00
Net SB=	L	L	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 pcal sets:   1
  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:   4

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = OFF
   PCALXB1=   S1    S2    S3    S4    OFF   OFF   OFF   OFF
   PCALXB2=   M1    M2    M3    M4    OFF   OFF   OFF   OFF
   PCALFR1=     0     0     0     0     0     0     0     0
   PCALFR2=     0     0     0     0     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --      RadioAstron H2O maser observations
    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)

* ORION_H2O          05 32 46.647965   * 05 35 14.125500     05 35 54.523558       0.00
                    -05 24 29.93190    *-05 22 36.47500     -05 22 20.61554        0.00


 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)
  ORION_H2O          123.5

 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
```

re03kstr

RadioAstron AGN fringe survey

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Observing mode: C/K-band, dual-pol

Notes: C/K-band, Radioastron-compatible frequency setup

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 2 Feb 2013 Day 33 ---										
---------- C-band VLBI scans ----------										
Next scan frequencies:		4836.00	4836.00	4836.00	4836.00					
Next BBC frequencies:		636.00	636.00	636.00	636.00					
Next scan bandwidths:		16.00	16.00	16.00	16.00					
22 00 00	0529+483	08 07 16	65.7	274.4	2.5		64.4	0	0	22 00 00
22 09 30	---	08 16 47	64.2	276.1	2.7		64.1	570	18	22 00 01
22 10 00	0529+483	08 17 17	64.2	276.1	2.7		64.0	24	18	22 10 00
22 19 30	---	08 26 49	62.7	277.7	2.9		63.7	570	37	22 10 01
22 20 00	0529+483	08 27 19	62.7	277.8	2.9		63.6	24	37	22 20 00
22 29 30	---	08 36 51	61.2	279.3	3.0		63.2	570	55	22 20 01
22 30 00	0529+483	08 37 21	61.2	279.4	3.1		63.2	24	55	22 30 00
22 40 00	---	08 47 22	59.7	280.9	3.2		62.6	600	75	22 30 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr6cm E-mail Borkowski 23Apr03 (CR 1May03)

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=	4200.00	4200.00	4200.00	4200.00
Net SB=	L	L	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 pcal sets:   1
  LO sum=   4836.00  4836.00  4836.00  4836.00
  BBC fr=    636.00   636.00   636.00   636.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   2

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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



SOURCES USED IN RECORDING SCANS --      RadioAstron AGN fringe survey
    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)

  J0533+4822        05 29 27.565383   * 05 33 15.865792     05 34 18.433642       0.15
* 0529+483          48 20 47.97038    * 48 22 52.80771      48 23 25.06379        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)
  0529+483           126.5

 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
```

re03kutr

RadioAstron AGN fringe survey

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```
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```


```
Observing mode: C/L-band, dual-pol

Notes:    C/L-band, Radioastron-compatible frequency setup


Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron AGN fringe 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Sun   3 Feb 2013   Day  34 ---

 ---------- 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

01 40 00  1226+023     11 47 52  38.1 166.6 -0.7      -8.0     0        0   01 40 00
01 49 30  ---          11 57 23  38.4 169.6 -0.5      -6.2   570       18   01 40 01

01 50 00  1226+023     11 57 53  38.5 169.8 -0.5      -6.1    24       18   01 50 00
01 59 30  ---          12 07 25  38.7 172.8 -0.4      -4.3   570       37   01 50 01

02 00 00  1226+023     12 07 55  38.7 173.0 -0.4      -4.2    24       37   02 00 00
02 09 30  ---          12 17 27  38.8 176.0 -0.2      -2.4   570       55   02 00 01

02 10 00  1226+023     12 17 57  38.8 176.2 -0.2      -2.3    24       55   02 10 00
02 20 00  ---          12 27 58  38.9 179.4 -0.0      -0.4   600       75   02 10 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
   Matching groups in /home/kirx/sched/catalogs/freq.dat:
     tr18cm          E-mail Borkowski 12Mar98, preferred alternative

   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=   2300.00   2300.00   2300.00   2300.00
   Net SB=         L         L         U         U
   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 pcal sets:   1
  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:   4

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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



SOURCES USED IN RECORDING SCANS --        RadioAstron AGN fringe survey
    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)

  J1229+0203        12 26 33.245833   * 12 29 06.699729     12 29 48.518375       1.05
  3C273             02 19 43.30578    * 02 03 08.59828      01 58 36.94231        1.38
* 1226+023          GSFC 2011A astro solution     31886 Observations


 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           128.2

 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
```

re03kvtr

RadioAstron AGN fringe survey

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

Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN fringe 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 3 Feb 2013 Day 34 ---										
---------- 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					
03 00 00	1101+384	13 08 05	64.1	247.1	2.0		44.7	0	0	03 00 00
03 09 30	---	13 17 37	62.8	250.0	2.2		45.8	570	18	03 00 01
03 10 00	1101+384	13 18 07	62.7	250.2	2.2		45.9	24	18	03 10 00
03 19 30	---	13 27 38	61.4	252.9	2.4		46.9	570	37	03 10 01
03 20 00	1101+384	13 28 08	61.3	253.1	2.4		46.9	24	37	03 20 00
03 29 30	---	13 37 40	59.9	255.7	2.5		47.7	570	55	03 20 01
03 30 00	1101+384	13 38 10	59.9	255.8	2.5		47.7	24	55	03 30 00
03 40 00	---	13 48 12	58.4	258.4	2.7		48.4	600	75	03 30 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

Setup group: 4 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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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:   5  Setup file default.  Used pcal sets:   1
  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:   5

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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



SOURCES USED IN RECORDING SCANS --                          RadioAstron AGN fringe survey
    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)

  J1104+3812        11 01 40.567856   * 11 04 27.313945     11 05 12.935745       0.13
* 1101+384          38 28 42.95188    * 38 12 31.79895      38 07 58.32974        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)
  1101+384           146.4

 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:
      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
```

re03kwtr

RadioAstron AGN fringe survey

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Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN fringe 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 3 Feb 2013 Day 34 ---										
---------- 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					
15 30 00	0529+483	01 40 08	53.7	73.1	-3.9		-59.9	0	0	15 30 00
15 39 30	---	01 49 40	55.1	74.5	-3.7		-60.6	570	18	15 30 01
15 40 00	0529+483	01 50 10	55.1	74.5	-3.7		-60.6	24	18	15 40 00
15 49 30	---	01 59 41	56.5	75.9	-3.6		-61.3	570	37	15 40 01
15 50 00	0529+483	02 00 11	56.6	76.0	-3.6		-61.3	24	37	15 50 00
15 59 30	---	02 09 43	58.0	77.4	-3.4		-61.9	570	55	15 50 01
16 00 00	0529+483	02 10 13	58.1	77.4	-3.4		-62.0	24	55	16 00 00
16 10 00	---	02 20 15	59.5	78.9	-3.2		-62.6	600	75	16 00 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

Setup group: 4 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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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 pcal sets:   1
  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:   4

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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



SOURCES USED IN RECORDING SCANS --       RadioAstron AGN fringe survey
    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)

  J0533+4822        05 29 27.565383   * 05 33 15.865792     05 34 18.422707       0.15
* 0529+483          48 20 47.97038    * 48 22 52.80771      48 23 25.10947        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)
  0529+483           125.9

 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
```

re03kxtr

RadioAstron AGN fringe survey

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Observing mode: C/K-band, dual-pol

Notes: C/K-band, Radioastron-compatible frequency setup

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 3 Feb 2013 Day 34 ---										
---------- K-band VLBI scans ----------										
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					
17 20 00	0355+508	03 30 26	84.9	111.3	-0.5		-62.7	0	0	17 20 00
17 29 30	---	03 39 58	86.2	121.5	-0.3		-54.5	570	18	17 20 01
17 30 00	0355+508	03 40 28	86.3	122.2	-0.3		-53.9	21	18	17 30 00
17 39 30	---	03 49 59	87.4	141.2	-0.2		-36.7	570	37	17 30 01
17 40 00	0355+508	03 50 30	87.4	142.6	-0.2		-35.4	19	37	17 40 00
17 49 30	---	04 00 01	87.9	177.9	-0.0		-2.0	570	55	17 40 01
17 50 00	0355+508	04 00 31	87.9	180.0	0.0		0.0	16	55	17 50 00
18 00 00	---	04 10 33	87.4	217.4	0.2		35.4	600	75	17 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
--- 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: 5 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
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 pcal sets:   1
  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:   5

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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



SOURCES USED IN RECORDING SCANS --    RadioAstron AGN fringe survey
    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)

  J0359+5057        03 55 45.261370   * 03 59 29.747271     04 00 30.928916       0.16
* 0355+508          50 49 20.28582    * 50 57 50.16177      51 00 10.49407        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)
  0355+508           110.5

 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
```

re03kytr

RadioAstron AGN fringe survey

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```
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```


```
Observing mode: C/K-band, dual-pol

Notes:    C/K-band, Radioastron-compatible frequency setup



Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron AGN fringe 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  Source               Start / Stop                Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Sun   3 Feb 2013   Day  34 ---

 ---------- K-band VLBI scans ----------

 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

20 20 00  0607-157     06 30 56  21.0 185.3  0.3       3.3     0        0   20 20 00
20 29 30  ---          06 40 27  20.9 187.8  0.5       4.8   570       18   20 20 01

20 30 00  0607-157     06 40 57  20.9 187.9  0.5       4.9    24       18   20 30 00
20 39 30  ---          06 50 29  20.6 190.3  0.7       6.4   570       37   20 30 01

20 40 00  0607-157     06 50 59  20.6 190.5  0.7       6.5    24       37   20 40 00
20 49 30  ---          07 00 31  20.3 192.9  0.8       8.0   570       55   20 40 01

20 50 00  0607-157     07 01 01  20.3 193.0  0.8       8.1    24       55   20 50 00
21 00 00  ---          07 11 02  20.0 195.6  1.0       9.6   600       75   20 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
 --- 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:    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=  21500.00  21500.00  21500.00  21500.00
   Net SB=         L         L         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 pcal sets:   1
  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:   6

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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



SOURCES USED IN RECORDING SCANS --         RadioAstron AGN fringe survey
    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)

  J0609-1542        06 07 25.981282   * 06 09 40.949536     06 10 18.164798       0.10
* 0607-157         -15 42 03.30592    *-15 42 40.67272     -15 43 07.09458       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)
  0607-157           125.2

 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
```

re03kztr

RadioAstron AGN fringe survey

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Observing mode: L-band, dual-pol

Notes: L-band, Radioastron-compatible frequency setup

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 3 Feb 2013 Day 34 ---										
---------- 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					
22 00 00	0529+483	08 11 12	65.1	275.1	2.6		64.2	0	0	22 00 00
22 09 30	---	08 20 44	63.6	276.7	2.8		63.9	570	18	22 00 01
22 10 00	0529+483	08 21 14	63.6	276.8	2.8		63.9	24	18	22 10 00
22 19 30	---	08 30 45	62.1	278.3	2.9		63.5	570	37	22 10 01
22 20 00	0529+483	08 31 16	62.1	278.4	2.9		63.4	24	37	22 20 00
22 29 30	---	08 40 47	60.7	279.9	3.1		63.0	570	55	22 20 01
22 30 00	0529+483	08 41 17	60.6	280.0	3.1		62.9	24	55	22 30 00
22 40 00	---	08 51 19	59.1	281.5	3.3		62.4	600	75	22 30 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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:   3  Setup file default.  Used pcal sets:   1
  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:   3

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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



SOURCES USED IN RECORDING SCANS --       RadioAstron AGN fringe survey
    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)

  J0533+4822        05 29 27.565383   * 05 33 15.865792     05 34 18.419225       0.15
* 0529+483          48 20 47.97038    * 48 22 52.80771      48 23 25.12669        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)
  0529+483           125.6

 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
```

re03latr

RadioAstron AGN fringe survey

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Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 4 Feb 2013 Day 35 ---										
---------- 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					
00 00 00	0536+145	10 11 32	24.9	261.0	4.5		37.8	0	0	00 00 00
00 09 30	---	10 21 04	23.5	263.0	4.7		38.0	570	18	00 00 01
00 10 00	0536+145	10 21 34	23.4	263.1	4.7		38.0	24	18	00 10 00
00 19 30	---	10 31 05	22.0	265.1	4.8		38.2	570	37	00 10 01
00 20 00	0536+145	10 31 35	21.9	265.2	4.9		38.2	24	37	00 20 00
00 29 30	---	10 41 07	20.5	267.1	5.0		38.3	570	55	00 20 01
00 30 00	0536+145	10 41 37	20.4	267.2	5.0		38.3	24	55	00 30 00
00 40 00	---	10 51 39	18.9	269.2	5.2		38.3	600	75	00 30 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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 pcal sets:   1
  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:   7

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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



SOURCES USED IN RECORDING SCANS --       RadioAstron AGN fringe survey
    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)

  J0539+1433        05 36 51.361474   * 05 39 42.365992     05 40 29.114704       0.10
* 0536+145          14 32 10.73036    * 14 33 45.56166      14 34 01.20984        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)
  0536+145           129.3

 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
```

re03lbtr

RadioAstron AGN fringe survey

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```
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```


```
Observing mode: C/L-band, dual-pol

Notes:    C/L-band, Radioastron-compatible frequency setup
```

```
Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron AGN fringe 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------

 --- Mon   4 Feb 2013   Day  35 ---

 ---------- 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

15 30 00  0529+483     01 44 05  54.3  73.7 -3.8     -60.2     0        0   15 30 00
15 39 30  ---          01 53 36  55.6  75.0 -3.7     -60.9   570       18   15 30 01

15 40 00  0529+483     01 54 06  55.7  75.1 -3.7     -60.9    24       18   15 40 00
15 49 30  ---          02 03 38  57.1  76.5 -3.5     -61.5   570       37   15 40 01

15 50 00  0529+483     02 04 08  57.2  76.6 -3.5     -61.6    24       37   15 50 00
15 59 30  ---          02 13 40  58.6  78.0 -3.3     -62.2   570       55   15 50 01

16 00 00  0529+483     02 14 10  58.6  78.0 -3.3     -62.2    24       55   16 00 00
16 10 00  ---          02 24 11  60.1  79.5 -3.2     -62.8   600       75   16 00 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
   Matching groups in /home/kirx/sched/catalogs/freq.dat:
     tr18cm          E-mail Borkowski 12Mar98, preferred alternative

   Setup group:    5         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=   2300.00   2300.00   2300.00   2300.00
   Net SB=         L         L         U         U
   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 pcal sets:   1
  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:   7

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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



SOURCES USED IN RECORDING SCANS --         RadioAstron AGN fringe survey
    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)

  J0533+4822        05 29 27.565383   * 05 33 15.865792     05 34 18.411327       0.15
* 0529+483          48 20 47.97038    * 48 22 52.80771      48 23 25.17594        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)
  0529+483           125.0

 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
```

re03lctr

RadioAstron AGN fringe survey

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Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 4 Feb 2013 Day 35 ---										
---------- 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					
17 30 00	0657+172	03 44 24	37.7	114.1	-3.3		-35.0	0	0	17 30 00
17 39 30	---	03 53 56	39.0	116.5	-3.1		-34.2	570	18	17 30 01
17 40 00	0657+172	03 54 26	39.0	116.6	-3.1		-34.2	24	18	17 40 00
17 49 30	---	04 03 58	40.3	119.1	-2.9		-33.3	570	37	17 40 01
17 50 00	0657+172	04 04 28	40.4	119.2	-2.9		-33.3	24	37	17 50 00
17 59 30	---	04 13 59	41.6	121.8	-2.8		-32.3	570	55	17 50 01
18 00 00	0657+172	04 14 29	41.7	121.9	-2.8		-32.2	24	55	18 00 00
18 10 00	---	04 24 31	42.9	124.6	-2.6		-31.1	600	75	18 00 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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 pcal sets:   1
  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:   7

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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



SOURCES USED IN RECORDING SCANS --    RadioAstron AGN fringe survey
    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)

  J0700+1709        06 57 07.785942   * 07 00 01.525540     07 00 49.238340       0.11
* 0657+172          17 13 35.02507    * 17 09 21.70126      17 08 03.34695        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)
  0657+172           148.1

 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
```

re06ktr

RadioAstron pulsar observations

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```
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Observing mode: L-band, dual-pol

Notes:    L-band, Radioastron-compatible frequency setup
          P-CAL is OFF
          Tsys is OFF
          auto-level (AGC) is OFF

Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron pulsar 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------

 --- Mon   4 Feb 2013   Day  35 ---

 ---------- This is a 1min calibration scan with auto-level (AGC) ON ----------

 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

19 58 00  CRAB         06 12 49  58.1 196.6  0.6      10.7     0        0   Stopped
19 59 00  ---          06 13 49  58.1 197.0  0.6      10.9    60        0

 ---------- Please make sure Pcal, noise diode (Tsys) and auto-level (AGC) are OFF now ----------

20 00 00  CRAB         06 14 49  58.0 197.5  0.7      11.2    53        0   20 00 00
20 09 30  ---          06 24 21  57.5 201.5  0.8      13.7   570       18   20 00 01

20 10 00  CRAB         06 24 51  57.5 201.7  0.8      13.9    23       18   20 10 00
20 19 30  ---          06 34 22  56.9 205.6  1.0      16.3   570       37   20 10 01

20 20 00  CRAB         06 34 52  56.9 205.9  1.0      16.4    24       37   20 20 00
20 29 30  ---          06 44 24  56.2 209.7  1.2      18.7   570       55   20 20 01

20 30 00  CRAB         06 44 54  56.2 209.9  1.2      18.8    24       55   20 30 00
20 40 00  ---          06 54 56  55.4 213.8  1.3      21.1   600       75   20 30 01


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


 ======== Setup file: ra18cm2_autolevel.set
   Matching groups in /home/kirx/sched/catalogs/freq.dat:
     tr18cm          E-mail Borkowski 12Mar98, preferred alternative

   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:

   Disk used to record data.

   Setup not used for recording data.
```

```
 1st LO=   2300.00   2300.00   2300.00   2300.00
 Net SB=         L         L         U         U
 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:   2  Setup file default.  Used pcal sets:   1
 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:   2

The following pulse cal sets were used with this setup:

 Pulse cal detection set:   1  PCAL = OFF
  PCALXB1=   S1    S2    S3    S4    OFF   OFF   OFF   OFF
  PCALXB2=   M1    M2    M3    M4    OFF   OFF   OFF   OFF
  PCALFR1=     0     0     0     0     0     0     0     0
  PCALFR2=     0     0     0     0     0     0     0     0


======== Setup file: ra18cm2.set
 Matching groups in /home/kirx/sched/catalogs/freq.dat:
   tr18cm          E-mail Borkowski 12Mar98, preferred alternative

 Setup group:    4         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=   2300.00   2300.00   2300.00   2300.00
 Net SB=         L         L         U         U
 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 pcal sets:   1
 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:   4

The following pulse cal sets were used with this setup:

 Pulse cal detection set:   1  PCAL = OFF
  PCALXB1=   S1    S2    S3    S4    OFF   OFF   OFF   OFF
  PCALXB2=   M1    M2    M3    M4    OFF   OFF   OFF   OFF
  PCALFR1=     0     0     0     0     0     0     0     0
  PCALFR2=     0     0     0     0     0     0     0     0

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

SOURCES USED IN RECORDING SCANS -- RadioAstron pulsar observations

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)
* CRAB	05 31 31.427725	* 05 34 31.973000	05 35 21.302539	0.00
	21 58 54.40670	* 22 00 52.06000	22 01 15.85380	0.00

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)
CRAB	128.1

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

re03ldtr

RadioAstron AGN fringe survey

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

Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 4 Feb 2013 Day 35 ---										
---------- 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					
22 00 00	0735+178	08 15 09	53.9	194.7	0.6		9.2	0	0	22 00 00
22 09 30	---	08 24 40	53.5	198.5	0.8		11.5	570	18	22 00 01
22 10 00	0735+178	08 25 10	53.4	198.7	0.8		11.7	24	18	22 10 00
22 19 30	---	08 34 42	52.9	202.4	0.9		13.9	570	37	22 10 01
22 20 00	0735+178	08 35 12	52.9	202.6	0.9		14.0	24	37	22 20 00
22 29 30	---	08 44 44	52.3	206.2	1.1		16.2	570	55	22 20 01
22 30 00	0735+178	08 45 14	52.3	206.4	1.1		16.3	24	55	22 30 00
22 40 00	---	08 55 15	51.6	210.1	1.3		18.4	600	75	22 30 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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:   6  Setup file default.  Used pcal sets:   1
  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:   6

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --      RadioAstron AGN fringe survey
    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)

  J0738+1742        07 35 14.126465   * 07 38 07.393752     07 38 55.039969       0.11
* 0735+178          17 49 09.26232    * 17 42 18.99811      17 40 18.21960        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)
  0735+178           157.0

 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
```

eg069btr

e-EVN runs EG069B (Gawronski)

PI: *Gawronski*

```
Address:  JIVE      Oude Hoogeveensedijk 4       Dwingeloo        Netherlands
Phone:    +31 521 596 536        EMAIL:    zparagi@jive.nl
Fax:      +31 521 596 539        Phone during observation: +31 521 596 530

Observing mode: realtime e-vlbi

Notes:    ############################################################
          ########## Please, make sure PHASE CAL is OFF. #############
          ############################################################


Schedule for TORUN     (Code Tr )                                      Page   2
               e-EVN runs EG069B (Gawronski)
  UP:  D => Below limits;  H => Below horizon mask;  W => still slewing at end;  blank => Up.
  Early: Seconds between end of slew and start.   Dwell: On source seconds.
  Disk: GBytes 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   5 Feb 2013   Day  36 ---

 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  3C454.3      19 16 57  34.0 109.7 -3.6     -36.1     0        0   09 00 00
09 15 00  ---          19 32 00  36.1 113.3 -3.4     -35.1   900      116   09 00 01

09 15 40  3C454.3      19 32 40  36.2 113.4 -3.4     -35.0    34      116   09 15 40
09 30 00  ---          19 47 02  38.1 117.0 -3.1     -33.9   860      227   09 15 41

09 30 40  3C454.3      19 47 42  38.2 117.2 -3.1     -33.8    34      227   09 30 40
09 45 00  ---          20 02 05  40.1 120.9 -2.9     -32.5   860      338   09 30 41

09 45 40  3C454.3      20 02 45  40.2 121.1 -2.9     -32.4    34      338   09 45 40
10 00 00  ---          20 17 07  42.0 125.0 -2.6     -30.8   860      449   09 45 41

10 00 40  3C454.3      20 17 47  42.1 125.1 -2.6     -30.8    34      449   10 00 40
10 15 00  ---          20 32 10  43.8 129.2 -2.4     -29.0   860      560   10 00 41

10 15 40  3C454.3      20 32 50  43.9 129.4 -2.4     -28.9    34      560   10 15 40
10 30 00  ---          20 47 12  45.5 133.7 -2.1     -26.9   860      671   10 15 41

10 30 40  3C454.3      20 47 52  45.6 133.9 -2.1     -26.8    34      671   10 30 40
10 45 00  ---          21 02 14  47.1 138.4 -1.9     -24.5   860      782   10 30 41

10 45 40  3C454.3      21 02 55  47.1 138.6 -1.9     -24.4    34      782   10 45 40
11 00 00  ---          21 17 17  48.5 143.4 -1.6     -21.9   860      893   10 45 41

11 00 40  3C454.3      21 17 57  48.5 143.6 -1.6     -21.8    34      893   11 00 40
11 15 00  ---          21 32 19  49.7 148.5 -1.4     -19.1   860     1004   11 00 41

11 15 40  3C454.3      21 33 00  49.8 148.8 -1.4     -18.9    34     1004   11 15 40
11 30 00  ---          21 47 22  50.8 153.9 -1.1     -16.0   860     1115   11 15 41
```

Schedule for TORUN (Code Tr) Page 3

e-EVN runs EG069B (Gawronski)

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this 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 5 Feb 2013 Day 36 ---										
11 32 00	0234+285	21 49 22	33.1	84.7	-4.8		-43.1	-33	1115	11 32 00
11 45 00	---	22 02 24	35.0	87.2	-4.6		-43.2	747	1215	11 32 01
11 45 40	0234+285	22 03 04	35.1	87.4	-4.6		-43.2	34	1215	11 45 40
12 00 00	---	22 17 27	37.3	90.2	-4.4		-43.3	860	1326	11 45 41
12 00 40	0234+285	22 18 07	37.4	90.3	-4.3		-43.3	34	1326	12 00 40
12 15 00	---	22 32 29	39.5	93.3	-4.1		-43.2	860	1437	12 00 41
12 15 40	0234+285	22 33 09	39.6	93.4	-4.1		-43.2	34	1437	12 15 40
12 30 00	---	22 47 32	41.8	96.4	-3.9		-42.9	860	1548	12 15 41
12 30 40	0234+285	22 48 12	41.9	96.6	-3.8		-42.9	34	1548	12 30 40
12 45 00	---	23 02 34	44.0	99.7	-3.6		-42.5	860	1659	12 30 41
12 45 40	0234+285	23 03 14	44.1	99.9	-3.6		-42.5	34	1659	12 45 40
13 00 00	---	23 17 37	46.2	103.2	-3.4		-41.9	860	1770	12 45 41
13 00 40	0234+285	23 18 17	46.3	103.3	-3.3		-41.8	34	1770	13 00 40
13 15 00	---	23 32 39	48.4	106.8	-3.1		-41.0	860	1881	13 00 41
13 15 40	0234+285	23 33 19	48.5	107.0	-3.1		-41.0	34	1881	13 15 40
13 30 00	---	23 47 42	50.6	110.7	-2.8		-39.9	860	1992	13 15 41
13 30 40	0234+285	23 48 22	50.6	110.9	-2.8		-39.8	34	1992	13 30 40
13 45 00	---	00 02 44	52.6	114.8	-2.6		-38.5	860	2103	13 30 41
13 45 40	0234+285	00 03 24	52.7	115.0	-2.6		-38.4	34	2103	13 45 40
14 00 00	---	00 17 47	54.6	119.2	-2.3		-36.8	860	2214	13 45 41
14 00 40	0234+285	00 18 27	54.7	119.4	-2.3		-36.7	34	2214	14 00 40
14 15 00	---	00 32 49	56.6	123.9	-2.1		-34.7	860	2325	14 00 41
14 15 40	0234+285	00 33 29	56.7	124.1	-2.1		-34.6	34	2325	14 15 40
14 30 00	---	00 47 51	58.4	129.0	-1.8		-32.2	860	2436	14 15 41
14 30 40	0234+285	00 48 32	58.5	129.3	-1.8		-32.1	34	2436	14 30 40
14 45 00	---	01 02 54	60.1	134.6	-1.6		-29.2	860	2547	14 30 41
14 45 40	0234+285	01 03 34	60.1	134.8	-1.6		-29.1	33	2547	14 45 40
15 00 00	---	01 17 56	61.6	140.6	-1.3		-25.8	860	2658	14 45 41
15 00 40	0234+285	01 18 36	61.7	140.9	-1.3		-25.7	33	2658	15 00 40
15 15 00	---	01 32 59	62.9	147.0	-1.1		-21.9	860	2769	15 00 41
15 15 40	0234+285	01 33 39	63.0	147.3	-1.1		-21.7	33	2769	15 15 40
15 30 00	---	01 48 01	64.0	154.0	-0.8		-17.5	860	2880	15 15 41

Schedule for TORUN (Code Tr) Page 4

e-EVN runs EG069B (Gawronski)

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this 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 5 Feb 2013 Day 36 ---										
15 30 40	0234+285	01 48 41	64.1	154.3	-0.8		-17.3	33	2880	15 30 40
15 45 00	---	02 03 04	64.9	161.4	-0.6		-12.6	860	2991	15 30 41
15 45 40	0234+285	02 03 44	64.9	161.7	-0.6		-12.4	33	2991	15 45 40
16 00 00	---	02 18 06	65.5	169.1	-0.3		-7.4	860	3102	15 45 41
16 00 40	0234+285	02 18 46	65.5	169.5	-0.3		-7.2	33	3102	16 00 40
16 15 00	---	02 33 09	65.7	177.1	-0.1		-2.0	860	3213	16 00 41
16 15 40	0234+285	02 33 49	65.7	177.4	-0.1		-1.8	33	3213	16 15 40
16 30 00	---	02 48 11	65.7	185.1	0.2		3.5	860	3324	16 15 41
16 30 40	0234+285	02 48 51	65.7	185.4	0.2		3.7	33	3324	16 30 40
16 45 00	---	03 03 14	65.3	193.0	0.4		8.9	860	3435	16 30 41
16 45 40	0234+285	03 03 54	65.3	193.3	0.4		9.1	33	3435	16 45 40
17 00 00	---	03 18 16	64.7	200.6	0.7		14.0	860	3546	16 45 41
17 00 40	0234+285	03 18 56	64.7	201.0	0.7		14.2	33	3546	17 00 40
17 15 00	---	03 33 19	63.8	207.9	0.9		18.7	860	3657	17 00 41
17 15 40	0234+285	03 33 59	63.7	208.2	0.9		18.9	33	3657	17 15 40
17 30 00	---	03 48 21	62.6	214.7	1.2		23.0	860	3768	17 15 41
17 30 40	0234+285	03 49 01	62.5	215.0	1.2		23.2	33	3768	17 30 40
17 45 00	---	04 03 23	61.2	221.1	1.4		26.8	860	3878	17 30 41
17 45 40	0234+285	04 04 04	61.1	221.3	1.4		26.9	33	3878	17 45 40
18 00 00	---	04 18 26	59.6	226.9	1.7		30.1	860	3989	17 45 41
18 00 40	0234+285	04 19 06	59.6	227.2	1.7		30.2	34	3989	18 00 40
18 15 00	---	04 33 28	57.9	232.4	1.9		32.9	860	4100	18 00 41
18 15 40	0234+285	04 34 09	57.8	232.6	1.9		33.0	34	4100	18 15 40
18 30 00	---	04 48 31	56.1	237.4	2.2		35.3	860	4211	18 15 41
18 30 40	0234+285	04 49 11	56.0	237.6	2.2		35.4	34	4211	18 30 40
18 45 00	---	05 03 33	54.1	242.0	2.4		37.3	860	4322	18 30 41
18 45 40	0234+285	05 04 13	54.0	242.2	2.4		37.3	34	4322	18 45 40
19 00 00	---	05 18 36	52.1	246.3	2.7		38.9	860	4433	18 45 41
19 00 40	0234+285	05 19 16	52.0	246.5	2.7		39.0	34	4433	19 00 40
19 15 00	---	05 33 38	50.0	250.4	2.9		40.2	860	4544	19 00 41
19 15 40	0234+285	05 34 18	49.9	250.5	2.9		40.3	34	4544	19 15 40
19 30 00	---	05 48 41	47.8	254.2	3.2		41.3	860	4655	19 15 41

Schedule for TORUN (Code Tr) Page 5

e-EVN runs EG069B (Gawronski)

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this 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 5 Feb 2013 Day 36 ---										
19 30 40	0234+285	05 49 21	47.7	254.3	3.2		41.3	34	4655	19 30 40
19 45 00	---	06 03 43	45.6	257.7	3.4		42.1	860	4766	19 30 41
19 45 40	0234+285	06 04 23	45.5	257.9	3.4		42.1	34	4766	19 45 40
20 00 00	---	06 18 46	43.4	261.2	3.7		42.6	860	4877	19 45 41
20 00 40	0234+285	06 19 26	43.3	261.3	3.7		42.7	34	4877	20 00 40
20 15 00	---	06 33 48	41.2	264.4	3.9		43.0	860	4988	20 00 41
20 15 40	0234+285	06 34 28	41.1	264.6	3.9		43.0	34	4988	20 15 40
20 30 00	---	06 48 51	38.9	267.6	4.2		43.2	860	5099	20 15 41
20 30 40	0234+285	06 49 31	38.8	267.7	4.2		43.2	34	5099	20 30 40
20 45 00	---	07 03 53	36.7	270.6	4.4		43.3	860	5210	20 30 41
20 45 40	0234+285	07 04 33	36.6	270.7	4.4		43.3	34	5210	20 45 40
21 00 00	---	07 18 56	34.4	273.5	4.7		43.2	860	5321	20 45 41
21 00 40	0234+285	07 19 36	34.3	273.7	4.7		43.2	34	5321	21 00 40
21 15 00	---	07 33 58	32.2	276.4	4.9		42.9	860	5432	21 00 41
21 15 40	0234+285	07 34 38	32.1	276.6	4.9		42.9	34	5432	21 15 40
21 30 00	---	07 49 00	29.9	279.2	5.2		42.6	860	5543	21 15 41
21 33 00	DA193	07 52 01	66.3	247.6	1.9		46.3	29	5543	21 33 00
21 45 00	---	08 04 03	64.6	251.3	2.1		47.8	720	5636	21 33 01
21 45 40	DA193	08 04 43	64.5	251.5	2.1		47.9	34	5636	21 45 40
22 00 00	---	08 19 05	62.5	255.6	2.4		49.2	860	5747	21 45 41
22 00 40	DA193	08 19 45	62.4	255.8	2.4		49.3	34	5747	22 00 40
22 15 00	---	08 34 08	60.3	259.5	2.6		50.2	860	5858	22 00 41
22 15 40	DA193	08 34 48	60.2	259.7	2.6		50.3	34	5858	22 15 40
22 30 00	---	08 49 10	58.0	263.1	2.9		50.9	860	5969	22 15 41
22 30 40	DA193	08 49 50	57.9	263.3	2.9		50.9	34	5969	22 30 40
22 45 00	---	09 04 13	55.8	266.4	3.1		51.3	860	6080	22 30 41
22 45 40	DA193	09 04 53	55.7	266.6	3.1		51.3	34	6080	22 45 40
23 00 00	---	09 19 15	53.5	269.6	3.4		51.4	860	6191	22 45 41
23 00 40	DA193	09 19 55	53.4	269.7	3.4		51.4	34	6191	23 00 40
23 15 00	---	09 34 18	51.3	272.5	3.6		51.4	860	6302	23 00 41
23 15 40	DA193	09 34 58	51.2	272.6	3.6		51.3	34	6302	23 15 40
23 30 00	---	09 49 20	49.0	275.3	3.9		51.1	860	6412	23 15 41

Schedule for TORUN (Code Tr) Page 6

e-EVN runs EG069B (Gawronski)

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this 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 5 Feb 2013 Day 36 ---										
23 30 40	DA193	09 50 00	48.9	275.5	3.9		51.1	34	6412	23 30 40
23 45 00	---	10 04 23	46.8	278.1	4.1		50.7	860	6523	23 30 41
23 45 40	DA193	10 05 03	46.7	278.2	4.1		50.7	34	6523	23 45 40
23 59 59	---	10 19 25	44.6	280.7	4.4		50.2	859	6634	23 45 41
--- Wed 6 Feb 2013 Day 37 ---										
00 00 40	DA193	10 20 05	44.5	280.8	4.4		50.2	34	6634	00 00 40
00 15 00	---	10 34 28	42.3	283.2	4.6		49.5	860	6745	00 00 41
00 15 40	DA193	10 35 08	42.2	283.4	4.6		49.5	34	6745	00 15 40
00 30 00	---	10 49 30	40.2	285.8	4.9		48.8	860	6856	00 15 41
00 30 40	DA193	10 50 10	40.1	285.9	4.9		48.8	34	6856	00 30 40
00 45 00	---	11 04 32	38.0	288.2	5.1		47.9	860	6967	00 30 41
00 45 40	DA193	11 05 13	37.9	288.3	5.1		47.9	34	6967	00 45 40
01 00 00	---	11 19 35	35.9	290.7	5.4		47.0	860	7078	00 45 41
01 03 00	4C39.25	11 22 35	65.9	245.8	1.9		44.8	53	7078	01 03 00
01 15 00	---	11 34 37	64.2	249.7	2.1		46.4	720	7171	01 03 01
01 15 40	4C39.25	11 35 18	64.1	249.9	2.1		46.5	34	7171	01 15 40
01 30 00	---	11 49 40	62.0	254.1	2.4		48.0	860	7282	01 15 41
01 33 00	1156+295	11 52 40	66.0	175.9	-0.1		-2.8	9	7282	01 33 00
01 45 00	---	12 04 42	66.1	182.4	0.1		1.7	720	7375	01 33 01
01 45 40	1156+295	12 05 22	66.1	182.8	0.1		1.9	33	7375	01 45 40
02 00 00	---	12 19 45	65.8	190.4	0.3		7.2	860	7486	01 45 41
02 00 40	1156+295	12 20 25	65.8	190.8	0.3		7.4	33	7486	02 00 40
02 15 00	---	12 34 47	65.2	198.3	0.6		12.4	860	7597	02 00 41
02 15 40	1156+295	12 35 27	65.2	198.6	0.6		12.7	33	7597	02 15 40
02 30 00	---	12 49 50	64.4	205.7	0.8		17.4	860	7708	02 15 41
02 30 40	1156+295	12 50 30	64.4	206.0	0.8		17.6	33	7708	02 30 40
02 45 00	---	13 04 52	63.3	212.7	1.1		21.8	860	7819	02 30 41
02 45 40	1156+295	13 05 32	63.2	213.0	1.1		22.0	33	7819	02 45 40
03 00 00	---	13 19 55	62.0	219.3	1.3		25.8	860	7930	02 45 41

Schedule for TORUN (Code Tr) Page 7
e-EVN runs EG069B (Gawronski)
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this 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 6 Feb 2013 Day 37 ---										
03 00 40	1156+295	13 20 35	61.9	219.6	1.3		26.0	33	7930	03 00 40
03 15 00	---	13 34 57	60.4	225.3	1.6		29.3	860	8041	03 00 41
03 15 40	1156+295	13 35 37	60.4	225.6	1.6		29.4	33	8041	03 15 40
03 30 00	---	13 50 00	58.8	230.9	1.8		32.3	860	8152	03 15 41
03 33 00	J1310+3233	13 53 00	68.1	203.9	0.7		16.8	109	8152	03 33 00
03 43 00	=1308+328	14 03 02	67.4	209.2	0.9		20.3	600	8229	03 33 01
03 43 40	J1310+3233	14 03 42	67.4	209.6	0.9		20.6	33	8229	03 43 40
03 58 00	=1308+328	14 18 04	66.2	216.7	1.1		25.2	860	8340	03 43 41
03 58 40	J1310+3233	14 18 44	66.1	217.0	1.1		25.4	33	8340	03 58 40
04 13 00	=1308+328	14 33 07	64.7	223.5	1.4		29.3	860	8451	03 58 41
04 13 40	J1310+3233	14 33 47	64.7	223.8	1.4		29.5	33	8451	04 13 40
04 28 00	=1308+328	14 48 09	63.1	229.6	1.6		32.9	860	8562	04 13 41
04 35 00	J1818+5017	14 55 10	59.0	74.3	-3.4		-64.8	94	8562	04 35 00
04 36 30	=1817+502	14 56 41	59.2	74.4	-3.4		-64.9	90	8574	04 35 01
04 36 30	J1809+5007	14 56 41	60.5	76.0	-3.2		-65.3	-18	8574	No stop
04 40 00	---	15 00 11	61.0	76.5	-3.2		-65.6	192	8601	04 36 31
04 40 30	J1818+5017	15 00 41	59.8	75.0	-3.3		-65.2	12	8601	04 40 30
04 41 30	=1817+502	15 01 41	59.9	75.1	-3.3		-65.3	60	8608	04 40 31
04 41 30	AMHER	15 01 41	60.1	76.2	-3.2		-64.8	-14	8608	No stop
04 45 00	---	15 05 12	60.6	76.7	-3.2		-65.0	196	8636	04 41 31
04 45 00	J1818+5017	15 05 12	60.4	75.6	-3.2		-65.6	-14	8636	No stop
04 46 30	=1817+502	15 06 42	60.7	75.8	-3.2		-65.7	76	8647	04 45 01
04 46 30	AMHER	15 06 42	60.8	76.9	-3.2		-65.1	-14	8647	No stop
04 50 00	---	15 10 13	61.3	77.4	-3.1		-65.4	196	8674	04 46 31
04 50 30	J1818+5017	15 10 43	61.2	76.3	-3.1		-66.0	16	8674	04 50 30
04 51 30	=1817+502	15 11 43	61.4	76.5	-3.1		-66.0	60	8682	04 50 31
04 51 30	AMHER	15 11 43	61.6	77.6	-3.1		-65.5	-15	8682	No stop
04 55 00	---	15 15 14	62.1	78.1	-3.0		-65.7	195	8709	04 51 31
04 55 00	J1818+5017	15 15 14	61.9	76.9	-3.1		-66.3	-14	8709	No stop
04 56 30	=1817+502	15 16 44	62.1	77.1	-3.0		-66.4	76	8721	04 55 01

Schedule for TORUN (Code Tr) Page 8
e-EVN runs EG069B (Gawronski)
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this 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 6 Feb 2013 Day 37 ---										
04 56 30	AMHER	15 16 44	62.3	78.3	-3.0		-65.8	-15	8721	No stop
05 00 00	---	15 20 14	62.8	78.8	-2.9		-66.1	195	8748	04 56 31
05 00 00	J1818+5017	15 20 14	62.6	77.6	-3.0		-66.6	-15	8748	No stop
05 01 30	=1817+502	15 21 45	62.9	77.8	-3.0		-66.8	75	8759	05 00 01
05 01 30	J1809+5007	15 21 45	64.2	79.5	-2.8		-67.1	-18	8759	No stop
05 05 00	---	15 25 15	64.7	80.0	-2.7		-67.3	192	8787	05 01 31
05 05 30	J1818+5017	15 25 45	63.4	78.4	-2.9		-67.0	12	8787	05 05 30
05 06 30	=1817+502	15 26 45	63.6	78.5	-2.9		-67.1	60	8794	05 05 31
05 06 30	AMHER	15 26 45	63.8	79.7	-2.8		-66.5	-15	8794	No stop
05 10 00	---	15 30 16	64.3	80.2	-2.8		-66.7	195	8821	05 06 31
05 10 00	J1818+5017	15 30 16	64.1	79.0	-2.8		-67.3	-15	8821	No stop
05 11 30	=1817+502	15 31 46	64.3	79.2	-2.8		-67.4	75	8833	05 10 01
05 11 30	AMHER	15 31 46	64.5	80.5	-2.7		-66.8	-15	8833	No stop
05 15 00	---	15 35 17	65.0	81.0	-2.7		-67.0	195	8860	05 11 31
05 15 30	J1818+5017	15 35 47	64.9	79.8	-2.7		-67.7	15	8860	05 15 30
05 16 30	=1817+502	15 36 47	65.1	80.0	-2.7		-67.7	60	8868	05 15 31
05 16 30	AMHER	15 36 47	65.3	81.2	-2.7		-67.0	-15	8868	No stop
05 20 00	---	15 40 18	65.8	81.7	-2.6		-67.2	195	8895	05 16 31
05 20 00	J1818+5017	15 40 18	65.6	80.5	-2.6		-68.0	-15	8895	No stop
05 21 30	=1817+502	15 41 48	65.8	80.7	-2.6		-68.0	75	8907	05 20 01
05 21 30	AMHER	15 41 48	66.0	82.0	-2.6		-67.3	-15	8907	No stop
05 25 00	---	15 45 18	66.5	82.5	-2.5		-67.5	195	8934	05 21 31
05 25 00	J1818+5017	15 45 18	66.3	81.2	-2.6		-68.3	-15	8934	No stop
05 26 30	=1817+502	15 46 49	66.6	81.4	-2.5		-68.3	75	8945	05 25 01
05 26 30	J1809+5007	15 46 49	67.9	83.2	-2.4		-68.4	-18	8945	No stop
05 30 00	---	15 50 19	68.4	83.8	-2.3		-68.6	192	8972	05 26 31
05 30 30	J1818+5017	15 50 49	67.2	82.0	-2.5		-68.6	12	8972	05 30 30
05 31 30	=1817+502	15 51 50	67.3	82.2	-2.4		-68.6	60	8980	05 30 31
05 31 30	AMHER	15 51 50	67.5	83.5	-2.4		-67.8	-16	8980	No stop
05 35 00	---	15 55 20	68.0	84.1	-2.4		-67.9	194	9007	05 31 31

Schedule for TORUN (Code Tr) Page 9
e-EVN runs EG069B (Gawronski)
UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this 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 6 Feb 2013 Day 37 ---										
05 35 00	J1818+5017	15 55 20	67.8	82.7	-2.4		-68.8	-15	9007	No stop
05 36 30	=1817+502	15 56 50	68.1	82.9	-2.4		-68.9	75	9019	05 35 01
05 36 30	AMHER	15 56 50	68.2	84.3	-2.3		-68.0	-16	9019	No stop
05 40 00	---	16 00 21	68.8	84.9	-2.3		-68.1	194	9046	05 36 31
05 40 30	J1818+5017	16 00 51	68.6	83.5	-2.3		-69.1	14	9046	05 40 30
05 41 30	=1817+502	16 01 51	68.8	83.7	-2.3		-69.1	60	9054	05 40 31
05 41 30	AMHER	16 01 51	69.0	85.2	-2.2		-68.2	-16	9054	No stop
05 45 00	---	16 05 22	69.5	85.8	-2.2		-68.3	194	9081	05 41 31
05 45 00	J1818+5017	16 05 22	69.3	84.3	-2.2		-69.3	-16	9081	No stop
05 46 30	=1817+502	16 06 52	69.5	84.5	-2.2		-69.3	74	9092	05 45 01
05 46 30	AMHER	16 06 52	69.7	86.0	-2.2		-68.3	-16	9092	No stop
05 50 00	---	16 10 23	70.3	86.6	-2.1		-68.4	194	9119	05 46 31
05 50 00	J1818+5017	16 10 23	70.1	85.1	-2.1		-69.5	-16	9119	No stop
05 51 30	=1817+502	16 11 53	70.3	85.3	-2.1		-69.5	74	9131	05 50 01
05 51 30	J1809+5007	16 11 53	71.6	87.4	-2.0		-69.3	-18	9131	No stop
05 55 00	---	16 15 23	72.2	88.0	-1.9		-69.4	192	9158	05 51 31
05 55 30	J1818+5017	16 15 53	70.9	86.0	-2.0		-69.7	12	9158	05 55 30
05 56 30	=1817+502	16 16 54	71.0	86.2	-2.0		-69.7	60	9166	05 55 31
05 56 30	AMHER	16 16 54	71.2	87.8	-2.0		-68.6	-17	9166	No stop
06 00 00	---	16 20 24	71.8	88.4	-1.9		-68.6	193	9193	05 56 31
06 00 00	J1818+5017	16 20 24	71.6	86.8	-2.0		-69.8	-16	9193	No stop
06 01 30	=1817+502	16 21 54	71.8	87.0	-1.9		-69.8	74	9205	06 00 01
06 01 30	AMHER	16 21 54	72.0	88.7	-1.9		-68.7	-17	9205	No stop
06 05 00	---	16 25 25	72.5	89.4	-1.9		-68.7	193	9232	06 01 31
06 05 30	J1818+5017	16 25 55	72.4	87.8	-1.9		-69.9	13	9232	06 05 30
06 06 30	=1817+502	16 26 55	72.6	87.9	-1.9		-69.9	60	9239	06 05 31
06 06 30	AMHER	16 26 55	72.7	89.7	-1.8		-68.7	-17	9239	No stop
06 10 00	---	16 30 26	73.3	90.4	-1.8		-68.7	193	9266	06 06 31
06 10 00	J1818+5017	16 30 26	73.1	88.6	-1.8		-70.0	-17	9266	No stop
06 11 30	=1817+502	16 31 56	73.3	88.9	-1.8		-70.0	73	9278	06 10 01

Schedule for TORUN (Code Tr) Page 10

e-EVN runs EG069B (Gawronski)

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this 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 6 Feb 2013 Day 37 ---										
06 11 30	AMHER	16 31 56	73.5	90.7	-1.7		-68.7	-17	9278	No stop
06 15 00	---	16 35 27	74.0	91.4	-1.7		-68.7	193	9305	06 11 31
06 15 00	J1818+5017	16 35 27	73.8	89.5	-1.7		-70.0	-17	9305	No stop
06 16 30	=1817+502	16 36 57	74.1	89.8	-1.7		-70.0	73	9317	06 15 01
06 16 30	J1809+5007	16 36 57	75.4	92.4	-1.5		-69.4	-19	9317	No stop
06 20 00	---	16 40 28	75.9	93.2	-1.5		-69.3	191	9344	06 16 31
06 20 30	J1818+5017	16 40 58	74.7	90.7	-1.6		-70.0	11	9344	06 20 30
06 21 30	=1817+502	16 41 58	74.8	90.9	-1.6		-70.0	60	9352	06 20 31
06 21 30	AMHER	16 41 58	75.0	92.9	-1.6		-68.5	-18	9352	No stop
06 25 00	---	16 45 28	75.5	93.7	-1.5		-68.4	192	9379	06 21 31
06 25 00	J1818+5017	16 45 28	75.3	91.6	-1.6		-70.0	-18	9379	No stop
06 26 30	=1817+502	16 46 59	75.6	91.9	-1.5		-69.9	72	9390	06 25 01
06 26 30	AMHER	16 46 59	75.8	94.1	-1.5		-68.3	-18	9390	No stop
06 30 00	---	16 50 29	76.3	94.9	-1.4		-68.2	192	9417	06 26 31
06 30 30	J1818+5017	16 50 59	76.2	92.8	-1.5		-69.8	12	9417	06 30 30
06 31 30	=1817+502	16 51 59	76.3	93.1	-1.4		-69.8	60	9425	06 30 31
06 31 30	AMHER	16 51 59	76.5	95.3	-1.4		-68.1	-19	9425	No stop
06 35 00	---	16 55 30	77.0	96.2	-1.4		-67.8	191	9452	06 31 31
06 35 00	J1818+5017	16 55 30	76.8	93.9	-1.4		-69.7	-18	9452	No stop
06 36 30	=1817+502	16 57 00	77.1	94.3	-1.4		-69.6	72	9464	06 35 01
06 36 30	AMHER	16 57 00	77.3	96.6	-1.3		-67.7	-19	9464	No stop
06 40 00	---	17 00 31	77.8	97.6	-1.3		-67.4	191	9491	06 36 31
06 40 00	J1818+5017	17 00 31	77.6	95.2	-1.3		-69.4	-19	9491	No stop
06 41 30	=1817+502	17 02 01	77.8	95.6	-1.3		-69.3	71	9503	06 40 01
06 41 30	J1809+5007	17 02 01	79.1	99.1	-1.1		-67.7	-22	9503	No stop
06 45 00	---	17 05 32	79.7	100.2	-1.1		-67.2	188	9530	06 41 31
06 45 30	J1818+5017	17 06 02	78.4	96.7	-1.2		-69.0	8	9530	06 45 30
06 46 30	=1817+502	17 07 02	78.6	97.0	-1.2		-68.9	60	9537	06 45 31
06 46 30	AMHER	17 07 02	78.7	99.7	-1.2		-66.7	-20	9537	No stop
06 50 00	---	17 10 32	79.3	100.8	-1.1		-66.2	190	9565	06 46 31

Schedule for TORUN (Code Tr) Page 11
e-EVN runs EG069B (Gawronski)

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes recorded to this 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 6 Feb 2013 Day 37 ---										
06 50 00	J1818+5017	17 10 32	79.1	98.0	-1.1		-68.6	-20	9565	No stop
06 51 30	=1817+502	17 12 03	79.3	98.5	-1.1		-68.4	70	9576	06 50 01
06 51 30	AMHER	17 12 03	79.5	101.4	-1.1		-66.0	-20	9576	No stop
06 55 00	---	17 15 33	80.0	102.7	-1.0		-65.4	190	9603	06 51 31
06 55 30	J1818+5017	17 16 03	79.9	99.8	-1.0		-67.8	10	9603	06 55 30
06 56 30	=1817+502	17 17 04	80.1	100.2	-1.0		-67.7	60	9611	06 55 31
06 56 30	AMHER	17 17 04	80.2	103.3	-1.0		-65.1	-21	9611	No stop
07 00 00	---	17 20 34	80.7	104.7	-0.9		-64.3	189	9638	06 56 31
07 00 00	J1818+5017	17 20 34	80.6	101.4	-1.0		-67.1	-21	9638	No stop
07 01 30	=1817+502	17 22 04	80.8	102.0	-0.9		-66.8	69	9650	07 00 01
07 01 30	AMHER	17 22 04	80.9	105.4	-0.9		-63.9	-22	9650	No stop
07 05 00	---	17 25 35	81.5	107.0	-0.8		-63.0	188	9677	07 01 31
07 05 00	J1818+5017	17 25 35	81.3	103.5	-0.9		-66.1	-22	9677	No stop
07 06 30	=1817+502	17 27 05	81.5	104.1	-0.9		-65.7	68	9688	07 05 01
07 06 30	J1809+5007	17 27 05	82.8	110.0	-0.7		-61.6	-27	9688	No stop
07 10 00	---	17 30 36	83.3	112.3	-0.6		-60.1	183	9715	07 06 31
07 10 30	J1818+5017	17 31 06	82.1	106.0	-0.8		-64.6	2	9715	07 10 30
07 11 30	=1817+502	17 32 06	82.2	106.5	-0.8		-64.3	60	9723	07 10 31
07 11 30	AMHER	17 32 06	82.4	110.6	-0.7		-60.7	-23	9723	No stop
07 15 00	---	17 35 37	82.9	112.8	-0.7		-59.2	187	9750	07 11 31
07 15 00	J1818+5017	17 35 37	82.8	108.4	-0.7		-63.1	-23	9750	No stop
07 16 30	=1817+502	17 37 07	83.0	109.3	-0.7		-62.5	67	9762	07 15 01
07 16 30	AMHER	17 37 07	83.1	113.8	-0.7		-58.5	-24	9762	No stop
07 20 00	---	17 40 37	83.6	116.4	-0.6		-56.6	186	9789	07 16 31
07 20 30	J1818+5017	17 41 07	83.5	111.9	-0.6		-60.7	6	9789	07 20 30
07 21 30	=1817+502	17 42 08	83.7	112.6	-0.6		-60.2	60	9797	07 20 31
07 21 30	AMHER	17 42 08	83.8	117.6	-0.6		-55.6	-26	9797	No stop
07 25 00	---	17 45 38	84.2	120.8	-0.5		-53.2	184	9824	07 21 31
07 25 00	J1818+5017	17 45 38	84.1	115.3	-0.6		-58.2	-25	9824	No stop
07 26 30	=1817+502	17 47 08	84.4	116.6	-0.5		-57.2	65	9835	07 25 01
07 26 30	J1809+5007	17 47 08	85.4	128.3	-0.4		-47.3	-40	9835	No stop
07 30 00	---	17 50 39	85.8	133.5	-0.3		-42.8	170	9863	07 26 31

*** UWAGA: Ten skrypt konczy sie o 7:30, ale rano bedzie przygotowana nowa jego wersja do testow
*** (z zapisem na dyski!), ktora formalnie obejmuje czas do godz. 17:00 UT (testy prawdopodobnie
*** skoncza sie duzo wczesniej). Beda to testy automatycznych ftp-ow w trakcie zapisywania na dyski.
*** Te nowa wersje trzeba bedzie uruchomic od okreslonej linii.

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


 ======== Setup file: 1024Mbps
   Matching groups in /aps3/opt/share/sched_10.2/catalogs/freq.dat:
     tr6cm           E-mail Borkowski 23Apr03 (CR 1May03)

   Setup group:    3         Station: TORUN             Total bit rate: 1024
   Format: MKIV1:2           Bits per sample: 2         Sample rate: 32.000
   Number of channels: 16    DBE type:                  Speedup factor:   0.50

   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
   Pol.  =       RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
                 RCP       LCP       RCP       LCP       RCP       LCP       RCP       LCP
   BBC   =         1         2         1         2         3         4         3         4
                   5         6         5         6         7         8         7         8
   BBC SB=         L         L         U         U         L         L         U         U
                   L         L         U         U         L         L         U         U
   IF    =         C         A         C         A         C         A         C         A
                   C         A         C         A         C         A         C         A

  The following frequency sets based on these setups were used.

   Frequency Set:   6  Setup file default.  Used pcal sets:   1
   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

  The following pulse cal sets were used with this setup:

   Pulse cal detection set:   1  PCAL = OFF
    PCALXB1=   S1    S2    S3    S4    S5    S6    S7    S8
    PCALXB2=   M1    M2    M3    M4    M5    M6    M7    M8
    PCALFR1=     0     0     0     0     0     0     0     0
    PCALFR2=     0     0     0     0     0     0     0     0

   Track assignments are:
    track1=   2, 10, 18, 26,  3, 11, 19, 27, 66, 74, 82, 90, 67, 75, 83, 91
    barrel=roll_off
```

SOURCES USED IN RECORDING SCANS -- e-EVN runs EG069B (Gawronski)

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)
* AMHER	18 14 58.431105	* 18 16 13.192800	18 16 31.653769	0.00
	49 50 56.91227	* 49 52 05.11200	49 52 16.46316	0.00
* J1809+5007	18 08 01.170607	* 18 09 15.070500	18 09 33.321176	0.00
	50 06 50.37595	* 50 07 28.18700	50 07 31.02609	0.00
J0237+2848	02 34 55.589591	* 02 37 52.405678	02 38 39.929823	0.11
* 0234+285	28 35 11.40773	* 28 48 08.98998	28 51 36.65139	0.10
J0555+3948	05 52 01.407174	* 05 55 30.805616	05 56 28.151479	0.13
* DA193	39 48 21.94578	* 39 48 49.16493	39 48 52.51138	0.10
J0927+3902	09 23 55.319217	* 09 27 03.013938	09 27 54.606381	0.13
* 4C39.25	39 15 23.56637	* 39 02 20.85177	38 58 39.71136	0.10
J1159+2914	11 56 57.786211	* 11 59 31.833912	12 00 13.869427	0.11
* 1156+295	29 31 25.73868	* 29 14 43.82678	29 10 03.13078	0.10
* J1310+3233	13 08 38.495364	* 13 10 59.402731	13 11 37.556498	0.12
1308+328	32 49 30.23280	* 32 33 34.44948	32 29 05.96972	0.10
* J1818+5017	18 17 16.882413	* 18 18 30.519237	18 18 48.655925	0.37
1817+502	50 16 01.52436	* 50 17 19.74367	50 17 33.85264	0.35
J2253+1608	22 51 29.519738	* 22 53 57.747937	22 54 36.381845	0.68
* 3C454.3	15 52 54.34810	* 16 08 53.56093	16 13 09.74253	0.72

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)
AMHER	76.8
J1809+5007	77.8
0234+285	89.1
DA193	130.0
4C39.25	156.6
1156+295	140.5
J1310+3233	124.9
J1818+5017	76.9
3C454.3	39.7

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		

re03lltr

RadioAstron AGN fringe survey

PI: *Yuri Kovalev*


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```


```
Observing mode: C/K-band, dual-pol

Notes:    C/K-band, Radioastron-compatible frequency setup
          auto-level (AGC) is ON

Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron AGN fringe 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------

 --- Thu   7 Feb 2013   Day  38 ---

 ---------- K-band VLBI scans ----------

 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

19 00 00  0748+126     05 26 29  40.2 130.8 -2.4     -27.7     0        0   19 00 00
19 09 30  ---          05 36 00  41.3 133.6 -2.3     -26.5   570       18   19 00 01

19 10 00  0748+126     05 36 31  41.3 133.7 -2.3     -26.4    24       18   19 10 00
19 19 30  ---          05 46 02  42.3 136.5 -2.1     -25.0   570       37   19 10 01

19 20 00  0748+126     05 46 32  42.4 136.7 -2.1     -25.0    24       37   19 20 00
19 29 30  ---          05 56 04  43.3 139.6 -1.9     -23.5   570       55   19 20 01

19 30 00  0748+126     05 56 34  43.4 139.7 -1.9     -23.4    24       55   19 30 00
19 40 00  ---          06 06 35  44.3 142.9 -1.8     -21.8   600       75   19 30 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
 --- 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:    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=  21500.00  21500.00  21500.00  21500.00
   Net SB=         L         L         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 pcal sets:   1
  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:   6

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --                          RadioAstron AGN fringe survey
    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)

  J0750+1231        07 48 05.060493   * 07 50 52.045731     07 51 38.034757       0.10
* 0748+126          12 38 45.47744    * 12 31 04.82812      12 28 49.72343        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)
  0748+126           156.8

 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
```

re03lmtr

RadioAstron AGN fringe survey

PI: *Yuri Kovalev*


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```


```
Observing mode: C/K-band, dual-pol

Notes:    C/K-band, Radioastron-compatible frequency setup
          auto-level (AGC) is ON


Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron AGN fringe 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------

 --- Thu   7 Feb 2013   Day  38 ---

 ---------- K-band VLBI scans ----------

 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

20 20 00  0607-157     06 46 42  20.7 189.4  0.6       5.8     0        0   20 20 00
20 29 30  ---          06 56 14  20.5 191.8  0.8       7.3   570       18   20 20 01

20 30 00  0607-157     06 56 44  20.5 191.9  0.8       7.4    24       18   20 30 00
20 39 30  ---          07 06 15  20.1 194.3  0.9       8.9   570       37   20 30 01

20 40 00  0607-157     07 06 45  20.1 194.5  0.9       9.0    24       37   20 40 00
20 49 30  ---          07 16 17  19.7 196.9  1.1      10.4   570       55   20 40 01

20 50 00  0607-157     07 16 47  19.7 197.0  1.1      10.5    24       55   20 50 00
21 00 00  ---          07 26 49  19.2 199.5  1.3      12.0   600       75   20 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
 --- 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:    5         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
   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 pcal sets:   1
  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:   6

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --       RadioAstron AGN fringe survey
    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)

  J0609-1542        06 07 25.981282   * 06 09 40.949536     06 10 18.143277       0.10
* 0607-157         -15 42 03.30592    *-15 42 40.67272     -15 43 07.73875       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)
  0607-157           122.6

 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
```

re03lntr

RadioAstron AGN fringe survey

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Observing mode: C/K-band, dual-pol

Notes: C/K-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 10 Feb 2013 Day 41 ---										
---------- K-band VLBI scans ----------										
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					
19 20 00	0355+508	05 58 22	71.9	275.3	2.0		71.8	0	0	19 20 00
19 29 30	---	06 07 53	70.5	276.7	2.1		71.4	570	18	19 20 01
19 30 00	0355+508	06 08 24	70.4	276.8	2.1		71.4	24	18	19 30 00
19 39 30	---	06 17 55	69.0	278.2	2.3		70.8	570	37	19 30 01
19 40 00	0355+508	06 18 25	68.9	278.3	2.3		70.8	24	37	19 40 00
19 49 30	---	06 27 57	67.5	279.6	2.5		70.2	570	55	19 40 01
19 50 00	0355+508	06 28 27	67.4	279.7	2.5		70.2	24	55	19 50 00
20 00 00	---	06 38 28	65.9	281.1	2.6		69.5	600	75	19 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
--- 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: 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=	21500.00	21500.00	21500.00	21500.00
Net SB=	L	L	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:   7  Setup file default.  Used pcal sets:   1
  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:   7

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --     RadioAstron AGN fringe survey
    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)

  J0359+5057        03 55 45.261370   * 03 59 29.747271     04 00 30.784414       0.16
* 0355+508          50 49 20.28582    * 50 57 50.16177      51 00 10.79318        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)
  0355+508           104.4

 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:
      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
```

re03lotr

RadioAstron AGN fringe survey

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Observing mode: L/K-band, dual-pol

Notes: L/K-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 10 Feb 2013 Day 41 ---										
---------- 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					
21 20 00	0716+714	07 58 42	71.4	-8.8	0.6		163.3	0	0	21 20 00
21 29 30	---	08 08 13	71.1	-11.1	0.7		158.9	570	18	21 20 01
21 30 00	0716+714	08 08 43	71.1	-11.2	0.8		158.7	24	18	21 30 00
21 39 30	---	08 18 15	70.8	-13.3	0.9		154.4	570	37	21 30 01
21 40 00	0716+714	08 18 45	70.8	-13.4	0.9		154.2	24	37	21 40 00
21 49 30	---	08 28 16	70.4	-15.5	1.1		150.0	570	55	21 40 01
21 50 00	0716+714	08 28 47	70.4	-15.6	1.1		149.8	24	55	21 50 00
22 00 00	---	08 38 48	70.0	-17.6	1.3		145.5	600	75	21 50 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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 pcal sets:   1
  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:   4

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --      RadioAstron AGN fringe survey
    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)

  J0721+7120        07 16 13.029741   * 07 21 53.448476     07 23 27.566619       0.31
* 0716+714          71 26 15.17406    * 71 20 36.36340      71 19 03.14996        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)
  0716+714           119.2

 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
```

re02artr

RadioAstron H2O maser observations

PI: *Alexei Alakoz*


```
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```


```
Observing mode: K-band, dual-pol

Notes:    K-band, Radioastron-compatible frequency setup
          auto-level (AGC) is ON



Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron H2O 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ    HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------

 --- Sun  10 Feb 2013   Day  41 ---

 ---------- Please, make sure PCAL is OFF for VYCMA_H2O maser observations. ----------

 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

23 00 00  VYCMA_H2O    09 38 58   5.8 210.3  2.3      19.6     0        0   23 00 00
23 09 30  ---          09 48 30   5.1 212.3  2.4      20.9   570       18   23 00 01

23 10 00  VYCMA_H2O    09 49 00   5.0 212.4  2.4      20.9    24       18   23 10 00
23 19 30  ---          09 58 31   4.2 214.4  2.6      22.1   570       37   23 10 01

23 20 00  VYCMA_H2O    09 59 01   4.2 214.5  2.6      22.2    24       37   23 20 00
23 30 00  ---          10 09 03   3.3 216.6  2.8      23.4   600       56   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: ra1cm2.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:    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=  21500.00  21500.00  21500.00  21500.00
   Net SB=         L         L         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 pcal sets:   1
  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:   4

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = OFF
   PCALXB1=   S1    S2    S3    S4    OFF   OFF   OFF   OFF
   PCALXB2=   M1    M2    M3    M4    OFF   OFF   OFF   OFF
   PCALFR1=     0     0     0     0     0     0     0     0
   PCALFR2=     0     0     0     0     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --    RadioAstron H2O maser observations
    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)

* VYCMA_H2O          07 20 54.733665   * 07 22 58.329060     07 23 32.839650       0.00
                    -25 40 12.42774    *-25 46 03.14100     -25 47 53.77598       0.00


 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)
  VYCMA_H2O          128.3

 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
```

re03lptr

RadioAstron AGN fringe survey

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Observing mode: C/K-band, dual-pol

Notes: C/K-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 11 Feb 2013 Day 42 ---										
---------- K-band VLBI scans ----------										
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					
00 40 00	1253-055	11 19 14	27.5	152.4	-1.6		-16.3	0	0	00 40 00
00 49 30	---	11 28 46	28.2	155.0	-1.5		-14.8	570	18	00 40 01
00 50 00	1253-055	11 29 16	28.2	155.1	-1.5		-14.7	24	18	00 50 00
00 59 30	---	11 38 48	28.8	157.7	-1.3		-13.2	570	37	00 50 01
01 00 00	1253-055	11 39 18	28.8	157.8	-1.3		-13.2	24	37	01 00 00
01 09 30	---	11 48 49	29.3	160.5	-1.1		-11.6	570	55	01 00 01
01 10 00	1253-055	11 49 19	29.3	160.6	-1.1		-11.5	24	55	01 10 00
01 20 00	---	11 59 21	29.8	163.5	-1.0		-9.9	600	75	01 10 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
--- 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: 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=	21500.00	21500.00	21500.00	21500.00
Net SB=	L	L	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:   7  Setup file default.  Used pcal sets:   1
  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:   7

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --                          RadioAstron AGN fringe survey
    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)

  J1256-0547        12 53 35.831299   * 12 56 11.166567     12 56 53.669552       0.69
  3C279            -05 31 07.99595    *-05 47 21.52481     -05 51 45.73755        0.92
* 1253-055



 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           127.1

 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
```

re03lstr

RadioAstron AGN fringe survey

PI: *Yuri Kovalev*


```
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```


```
Observing mode: C/K-band, dual-pol

Notes:    C/K-band, Radioastron-compatible frequency setup
          auto-level (AGC) is ON
```

```
Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron AGN fringe 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------

 --- Mon  11 Feb 2013   Day  42 ---

 ---------- C-band VLBI scans ----------

 Next scan frequencies:  4836.00  4836.00  4836.00  4836.00
 Next BBC frequencies:    636.00   636.00   636.00   636.00
 Next scan bandwidths:     16.00    16.00    16.00    16.00

10 50 00  1611+343     21 30 55  32.8 -75.3  5.3      44.6     0        0   10 50 00
10 59 30  ---          21 40 26  31.5 -73.6  5.4      44.1   570       18   10 50 01

11 00 00  1611+343     21 40 56  31.4 -73.6  5.4      44.1    24       18   11 00 00
11 09 30  ---          21 50 28  30.0 -71.9  5.6      43.6   570       37   11 00 01

11 10 00  1611+343     21 50 58  30.0 -71.8  5.6      43.6    24       37   11 10 00
11 19 30  ---          22 00 29  28.6 -70.2  5.8      43.1   570       55   11 10 01

11 20 00  1611+343     22 01 00  28.5 -70.1  5.8      43.0    24       55   11 20 00
11 30 00  ---          22 11 01  27.1 -68.4  5.9      42.4   600       75   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: ra6cm2.set
   Matching groups in /home/kirx/sched/catalogs/freq.dat:
     tr6cm           E-mail Borkowski 23Apr03 (CR 1May03)

   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=   4200.00   4200.00   4200.00   4200.00
   Net SB=         L         L         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 pcal sets:   1
  LO sum=   4836.00  4836.00  4836.00  4836.00
  BBC fr=    636.00   636.00   636.00   636.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   4

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --      RadioAstron AGN fringe survey
    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)

  J1613+3412        16 11 47.914251   * 16 13 41.064242     16 14 10.936466       0.12
* 1611+343          34 20 19.83376    * 34 12 47.90878      34 10 36.62168        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)
  1611+343            91.1

 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
```

re03lttr

RadioAstron AGN fringe survey

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Observing mode: C/K-band, dual-pol

Notes: C/K-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 11 Feb 2013 Day 42 ---										
---------- K-band VLBI scans ----------										
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						
16 20 00	0355+508	03 01 49	80.8	97.2	-1.0		-71.2	0	0	16 20 00
16 29 30	---	03 11 20	82.2	100.6	-0.8		-69.7	570	18	16 20 01
16 30 00	0355+508	03 11 50	82.2	100.8	-0.8		-69.6	24	18	16 30 00
16 39 30	---	03 21 22	83.6	105.3	-0.7		-67.0	570	37	16 30 01
16 40 00	0355+508	03 21 52	83.7	105.5	-0.6		-66.8	23	37	16 40 00
16 49 30	---	03 31 24	85.1	112.1	-0.5		-62.1	570	55	16 40 01
16 50 00	0355+508	03 31 54	85.1	112.6	-0.5		-61.8	22	55	16 50 00
17 00 00	---	03 41 55	86.5	124.4	-0.3		-52.0	600	75	16 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
--- 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: 4 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
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 pcal sets:   1
  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

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --                          RadioAstron AGN fringe survey
    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)

  J0359+5057        03 55 45.261370   * 03 59 29.747271     04 00 30.753768       0.16
* 0355+508          50 49 20.28582    * 50 57 50.16177      51 00 10.80514        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)
  0355+508           103.6

 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
```

re02astr

RadioAstron H2O maser observations

PI: *Alexei Alakoz*


```
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Fax:      +7-495-3332378           Phone during observation: +7-903-6614865
```


```
Observing mode: K-band, dual-pol

Notes:    K-band, Radioastron-compatible frequency setup
          auto-level (AGC) is ON


Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron H2O 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------

 --- Mon  11 Feb 2013   Day  42 ---

 ---------- Please, make sure PCAL is OFF for ORION_H2O maser observations. ----------

 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

20 00 00  ORION_H2O    06 42 25  29.9 199.2  1.1      11.4     0        0   20 00 00
20 09 30  ---          06 51 57  29.4 201.8  1.3      13.0   570       18   20 00 01

20 10 00  ORION_H2O    06 52 27  29.3 202.0  1.3      13.0    24       18   20 10 00
20 19 30  ---          07 01 58  28.8 204.6  1.4      14.6   570       37   20 10 01

20 20 00  ORION_H2O    07 02 28  28.7 204.8  1.4      14.6    24       37   20 20 00
20 29 30  ---          07 12 00  28.1 207.4  1.6      16.1   570       55   20 20 01

20 30 00  ORION_H2O    07 12 30  28.1 207.5  1.6      16.2    24       55   20 30 00
20 40 00  ---          07 22 32  27.4 210.2  1.8      17.7   600       75   20 30 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
 --- 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:    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=  21500.00  21500.00  21500.00  21500.00
   Net SB=         L         L         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 pcal sets:   1
  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:   4

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = OFF
   PCALXB1=   S1    S2    S3    S4    OFF   OFF   OFF   OFF
   PCALXB2=   M1    M2    M3    M4    OFF   OFF   OFF   OFF
   PCALFR1=     0     0     0     0     0     0     0     0
   PCALFR2=     0     0     0     0     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --   RadioAstron H2O maser observations
    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)

* ORION_H2O          05 32 46.647965   * 05 35 14.125500     05 35 54.436321       0.00
                    -05 24 29.93190    *-05 22 36.47500     -05 22 21.38867       0.00



 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)
  ORION_H2O          115.9

 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
```

re03lutr

RadioAstron AGN fringe survey

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Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 11 Feb 2013 Day 42 ---										
---------- 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					
22 00 00	0754+100	08 42 45	45.9	196.0	0.7		9.7	0	0	22 00 00
22 09 30	---	08 52 16	45.4	199.3	0.9		11.6	570	18	22 00 01
22 10 00	0754+100	08 52 46	45.4	199.5	0.9		11.7	24	18	22 10 00
22 19 30	---	09 02 18	44.9	202.7	1.1		13.6	570	37	22 10 01
22 20 00	0754+100	09 02 48	44.9	202.9	1.1		13.7	24	37	22 20 00
22 29 30	---	09 12 20	44.3	206.1	1.2		15.5	570	55	22 20 01
22 30 00	0754+100	09 12 50	44.2	206.2	1.2		15.6	24	55	22 30 00
22 40 00	---	09 22 51	43.5	209.5	1.4		17.5	600	75	22 30 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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 pcal sets:   1
  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:   4

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --                          RadioAstron AGN fringe survey
    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)

  J0757+0956        07 54 22.579229   * 07 57 06.642950     07 57 51.849481       0.10
* 0754+100          10 04 39.66684    * 09 56 34.85224      09 54 12.92900        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)
  0754+100           154.1

 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
```

re03lvtr

RadioAstron AGN fringe survey

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Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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
--- Tue 12 Feb 2013 Day 43 ---										
---------- 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					
00 00 00	1253-055	10 43 04	24.6	142.9	-2.2		-21.4	0	0	00 00 00
00 09 30	---	10 52 36	25.5	145.3	-2.1		-20.1	570	18	00 00 01
00 10 00	1253-055	10 53 06	25.5	145.5	-2.1		-20.0	24	18	00 10 00
00 19 30	---	11 02 38	26.3	148.0	-1.9		-18.7	570	37	00 10 01
00 20 00	1253-055	11 03 08	26.3	148.1	-1.9		-18.6	24	37	00 20 00
00 29 30	---	11 12 39	27.1	150.6	-1.7		-17.2	570	55	00 20 01
00 30 00	1253-055	11 13 09	27.1	150.7	-1.7		-17.2	24	55	00 30 00
00 40 00	---	11 23 11	27.8	153.4	-1.6		-15.7	600	75	00 30 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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:   3  Setup file default.  Used pcal sets:   1
  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:   3

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --   RadioAstron AGN fringe survey
    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)

  J1256-0547        12 53 35.831299   * 12 56 11.166567     12 56 53.688926       0.69
  3C279             -05 31 07.99595    *-05 47 21.52481     -05 51 45.86743       0.92
* 1253-055



 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           128.1

 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
```

re03lwtr

RadioAstron AGN fringe survey

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Observing mode: C/K-band, dual-pol

Notes: C/K-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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
--- Tue 12 Feb 2013 Day 43 ---										
---------- K-band VLBI scans ----------										
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						
00 50 00	1334-127	11 33 13	18.6	147.7	-2.1		-19.2	0	0	00 50 00
00 59 30	---	11 42 44	19.4	150.0	-1.9		-17.9	570	18	00 50 01
01 00 00	1334-127	11 43 14	19.4	150.2	-1.9		-17.9	24	18	01 00 00
01 09 30	---	11 52 46	20.1	152.5	-1.8		-16.5	570	37	01 00 01
01 10 00	1334-127	11 53 16	20.1	152.6	-1.8		-16.5	24	37	01 10 00
01 19 30	---	12 02 47	20.8	155.0	-1.6		-15.1	570	55	01 10 01
01 20 00	1334-127	12 03 18	20.8	155.2	-1.6		-15.0	24	55	01 20 00
01 30 00	---	12 13 19	21.4	157.7	-1.4		-13.5	600	75	01 20 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
--- 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: 4 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
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 pcal sets:   1
  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

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --     RadioAstron AGN fringe survey
    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)

  J1337-1257        13 34 59.803872   * 13 37 39.782777     13 38 23.422844       0.10
* 1334-127         -12 42 09.74318    *-12 57 24.69345     -13 01 29.51764       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)
  1334-127           115.9

 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
```

re03lxtr

RadioAstron AGN fringe survey

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Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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
--- Tue 12 Feb 2013 Day 43 ---										
---------- 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					
14 30 00	0716+714	01 15 27	48.7	29.0	-6.1		-65.3	0	0	14 30 00
14 39 30	---	01 24 59	49.4	29.5	-6.0		-67.2	570	18	14 30 01
14 40 00	0716+714	01 25 29	49.4	29.5	-6.0		-67.3	24	18	14 40 00
14 49 30	---	01 35 01	50.1	29.9	-5.8		-69.2	570	37	14 40 01
14 50 00	0716+714	01 35 31	50.1	29.9	-5.8		-69.3	24	37	14 50 00
14 59 30	---	01 45 02	50.9	30.3	-5.6		-71.3	570	55	14 50 01
15 00 00	0716+714	01 45 32	50.9	30.4	-5.6		-71.4	24	55	15 00 00
15 10 00	---	01 55 34	51.7	30.8	-5.5		-73.4	600	75	15 00 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

Setup group: 5 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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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 pcal sets:   1
  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:   7

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --      RadioAstron AGN fringe survey
    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)

  J0721+7120        07 16 13.029741   * 07 21 53.448476     07 23 27.506086       0.31
* 0716+714          71 26 15.17406    * 71 20 36.36340      71 19 03.61782        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)
  0716+714           118.3

 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
```

re03lytr

RadioAstron AGN fringe survey

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

Observing mode: C/K-band, dual-pol

Notes: C/K-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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	Source	LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 12 Feb 2013 Day 43 ---										
---------- K-band VLBI scans ----------										
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					
16 20 00	0355+508	03 05 45	81.3	98.5	-0.9		-70.7	0	0	16 20 00
16 29 30	---	03 15 17	82.7	102.2	-0.8		-68.8	570	18	16 20 01
16 30 00	0355+508	03 15 47	82.8	102.5	-0.7		-68.7	23	18	16 30 00
16 39 30	---	03 25 19	84.2	107.6	-0.6		-65.4	570	37	16 30 01
16 40 00	0355+508	03 25 49	84.3	108.0	-0.6		-65.2	23	37	16 40 00
16 49 30	---	03 35 20	85.6	115.9	-0.4		-59.1	570	55	16 40 01
16 50 00	0355+508	03 35 50	85.7	116.4	-0.4		-58.7	22	55	16 50 00
17 00 00	---	03 45 52	86.9	131.4	-0.2		-45.7	600	75	16 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
--- 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: 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=	21500.00	21500.00	21500.00	21500.00
Net SB=	L	L	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 pcal sets:   1
  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:   5

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --      RadioAstron AGN fringe survey
    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)

  J0359+5057        03 55 45.261370   * 03 59 29.747271     04 00 30.717609       0.16
* 0355+508          50 49 20.28582    * 50 57 50.16177      51 00 10.79561        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)
  0355+508           102.7

 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
      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
```

re03matr

RadioAstron AGN fringe survey

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Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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
--- Tue 12 Feb 2013 Day 43 ---										
---------- 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					
20 00 00	0700-007	06 46 22	35.9	174.5	-0.3		-3.3	0	0	20 00 00
20 09 30	---	06 55 53	36.0	177.5	-0.1		-1.5	570	18	20 00 01
20 10 00	0700-007	06 56 23	36.0	177.6	-0.1		-1.4	24	18	20 10 00
20 19 30	---	07 05 55	36.0	180.6	0.0		0.4	570	37	20 10 01
20 20 00	0700-007	07 06 25	36.0	180.7	0.0		0.4	24	37	20 20 00
20 29 30	---	07 15 56	36.0	183.7	0.2		2.2	570	55	20 20 01
20 30 00	0700-007	07 16 26	36.0	183.8	0.2		2.3	24	55	20 30 00
20 40 00	---	07 26 28	35.8	186.9	0.4		4.2	600	75	20 30 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

Setup group: 5 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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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:   6  Setup file default.  Used pcal sets:   1
  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:   6

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --         RadioAstron AGN fringe survey
    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)

  J0703-0051        07 00 46.258284   * 07 03 19.086610     07 04 01.159450       0.13
* 0700-007         -00 46 35.19212    *-00 51 03.15802     -00 52 28.97588       0.22



 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)
  0700-007           137.3

 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
```

re03mbtr

RadioAstron AGN fringe survey

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Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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
--- Tue 12 Feb 2013 Day 43 ---										
---------- 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					
22 00 00	0754+100	08 46 41	45.7	197.4	0.8		10.5	0	0	22 00 00
22 09 30	---	08 56 13	45.2	200.6	1.0		12.4	570	18	22 00 01
22 10 00	0754+100	08 56 43	45.2	200.8	1.0		12.5	24	18	22 10 00
22 19 30	---	09 06 14	44.7	204.0	1.1		14.4	570	37	22 10 01
22 20 00	0754+100	09 06 45	44.6	204.2	1.1		14.5	24	37	22 20 00
22 29 30	---	09 16 16	44.0	207.4	1.3		16.3	570	55	22 20 01
22 30 00	0754+100	09 16 46	44.0	207.5	1.3		16.4	24	55	22 30 00
22 40 00	---	09 26 48	43.2	210.8	1.5		18.2	600	75	22 30 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

Setup group: 5 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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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:   6  Setup file default.  Used pcal sets:   1
  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:   6

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --     RadioAstron AGN fringe survey
    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)

  J0757+0956        07 54 22.579229   * 07 57 06.642950     07 57 51.840160       0.10
* 0754+100          10 04 39.66684    * 09 56 34.85224      09 54 12.91155        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)
  0754+100           153.1

 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
```

re02attr

RadioAstron Hydroxyl and H2O maser observations

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Observing mode: K/L-band, dual-pol

Notes: K/L-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron Hydroxyl and H2O 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
--- Wed 13 Feb 2013 Day 44 ---										
---------- Please, make sure PCAL is OFF for S269_H2O maser observations. ----------										
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						
00 00 00	S269_H2O	10 47 01	24.2	260.6	4.5		37.6	0	0	00 00 00
00 09 30	---	10 56 33	22.8	262.6	4.7		37.8	570	18	00 00 01
00 10 00	S269_H2O	10 57 03	22.7	262.7	4.7		37.8	24	18	00 10 00
00 19 30	---	11 06 34	21.3	264.7	4.9		38.0	570	37	00 10 01
00 20 00	S269_H2O	11 07 04	21.2	264.8	4.9		38.0	24	37	00 20 00
00 29 30	---	11 16 36	19.8	266.7	5.0		38.1	570	55	00 20 01
00 30 00	S269_H2O	11 17 06	19.7	266.8	5.0		38.1	24	55	00 30 00
00 40 00	---	11 27 08	18.2	268.9	5.2		38.2	600	75	00 30 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
--- 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: 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=	21500.00	21500.00	21500.00	21500.00
Net SB=	L	L	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:   3  Setup file default.  Used pcal sets:   1
  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:   3

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = OFF
   PCALXB1=   S1    S2    S3    S4    OFF   OFF   OFF   OFF
   PCALXB2=   M1    M2    M3    M4    OFF   OFF   OFF   OFF
   PCALFR1=     0     0     0     0     0     0     0     0
   PCALFR2=     0     0     0     0     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --     RadioAstron Hydroxyl and H2O maser observations
     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)

 * S269_H2O           06 11 46.911568   * 06 14 37.079330     06 15 23.645595       0.00
                     13 50 34.36305    * 13 49 36.69450      13 49 10.65154        0.00



 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)
  S269_H2O           128.7

 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
      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
```

re03mctr

RadioAstron AGN fringe survey

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```
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```


```
Observing mode: C/K-band, dual-pol

Notes:    C/K-band, Radioastron-compatible frequency setup
          auto-level (AGC) is ON


Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron AGN fringe 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------

 --- Wed  13 Feb 2013   Day  44 ---

 ---------- K-band VLBI scans ----------

 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

16 20 00  0355+508     03 09 42  81.9  99.9 -0.8     -70.0     0        0   16 20 00
16 29 30  ---          03 19 14  83.3 104.1 -0.7     -67.7   570       18   16 20 01

16 30 00  0355+508     03 19 44  83.4 104.4 -0.7     -67.6    23       18   16 30 00
16 39 30  ---          03 29 15  84.8 110.4 -0.5     -63.4   570       37   16 30 01

16 40 00  0355+508     03 29 45  84.8 110.8 -0.5     -63.1    23       37   16 40 00
16 49 30  ---          03 39 17  86.1 120.5 -0.4     -55.3   570       55   16 40 01

16 50 00  0355+508     03 39 47  86.2 121.2 -0.3     -54.7    21       55   16 50 00
17 00 00  ---          03 49 49  87.3 140.8 -0.2     -37.1   600       75   16 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
 --- 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:    5         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
   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 pcal sets:   1
  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

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --    RadioAstron AGN fringe survey
    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)

  J0359+5057        03 55 45.261370   * 03 59 29.747271     04 00 30.681945       0.16
* 0355+508          50 49 20.28582    * 50 57 50.16177      51 00 10.76567        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)
  0355+508           101.9

 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
```

re03mdtr

RadioAstron AGN fringe survey

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Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 13 Feb 2013 Day 44 ---										
---------- C-band VLBI scans ----------										
Next scan frequencies:		4836.00	4836.00	4836.00	4836.00					
Next BBC frequencies:		636.00	636.00	636.00	636.00					
Next scan bandwidths:		16.00	16.00	16.00	16.00					
18 00 00	0316+413	04 49 58	71.1	241.4	1.5		44.8	0	0	18 00 00
18 09 30	---	04 59 30	69.8	245.1	1.6		46.7	570	18	18 00 01
18 10 00	0316+413	05 00 00	69.8	245.3	1.7		46.8	24	18	18 10 00
18 19 30	---	05 09 32	68.4	248.6	1.8		48.4	570	37	18 10 01
18 20 00	0316+413	05 10 02	68.4	248.8	1.8		48.4	24	37	18 20 00
18 29 30	---	05 19 33	67.0	251.9	2.0		49.7	570	55	18 20 01
18 30 00	0316+413	05 20 03	67.0	252.0	2.0		49.8	24	55	18 30 00
18 40 00	---	05 30 05	65.5	255.0	2.2		50.8	600	75	18 30 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr6cm E-mail Borkowski 23Apr03 (CR 1May03)

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=	4200.00	4200.00	4200.00	4200.00
Net SB=	L	L	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:   3  Setup file default.  Used pcal sets:   1
  LO sum=   4836.00  4836.00  4836.00  4836.00
  BBC fr=    636.00   636.00   636.00   636.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   3

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --     RadioAstron AGN fringe survey
    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)

  J0319+4130        03 16 29.567260   * 03 19 48.160090     03 20 41.742323       1.30
* 0316+413          41 19 51.91699    * 41 30 42.10412      41 33 38.52365        2.72



 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)
  0316+413            93.3

 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
```

re03metr

RadioAstron AGN fringe survey

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Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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	Source	LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 13 Feb 2013 Day 44 ---										
---------- 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					
20 00 00	0700-007	06 50 18	36.0	175.8	-0.2		-2.5	0	0	20 00 00
20 09 30	---	06 59 50	36.0	178.7	-0.1		-0.8	570	18	20 00 01
20 10 00	0700-007	07 00 20	36.0	178.9	-0.1		-0.7	24	18	20 10 00
20 19 30	---	07 09 51	36.0	181.8	0.1		1.1	570	37	20 10 01
20 20 00	0700-007	07 10 21	36.0	182.0	0.1		1.2	24	37	20 20 00
20 29 30	---	07 19 53	35.9	184.9	0.3		2.9	570	55	20 20 01
20 30 00	0700-007	07 20 23	35.9	185.1	0.3		3.0	24	55	20 30 00
20 40 00	---	07 30 25	35.7	188.1	0.4		4.9	600	75	20 30 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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 pcal sets:   1
  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:   4

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --    RadioAstron AGN fringe survey
    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)

  J0703-0051        07 00 46.258284   * 07 03 19.086610     07 04 01.145276       0.13
* 0700-007         -00 46 35.19212    *-00 51 03.15802     -00 52 29.06374       0.22



 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)
  0700-007           136.5

 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
```

re03mftr

RadioAstron AGN fringe survey

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```


```
Observing mode: C/K-band, dual-pol

Notes:    C/K-band, Radioastron-compatible frequency setup
          auto-level (AGC) is ON


Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron AGN fringe 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------

 --- Wed  13 Feb 2013   Day  44 ---

 ---------- K-band VLBI scans ----------

 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

22 00 00  0754+100     08 50 38  45.5 198.7  0.9      11.3     0        0   22 00 00
22 09 30  ---          09 00 09  45.0 202.0  1.0      13.2   570       18   22 00 01

22 10 00  0754+100     09 00 39  45.0 202.1  1.0      13.3    24       18   22 10 00
22 19 30  ---          09 10 11  44.4 205.3  1.2      15.1   570       37   22 10 01

22 20 00  0754+100     09 10 41  44.4 205.5  1.2      15.2    24       37   22 20 00
22 29 30  ---          09 20 13  43.7 208.6  1.4      17.0   570       55   22 20 01

22 30 00  0754+100     09 20 43  43.7 208.8  1.4      17.1    24       55   22 30 00
22 40 00  ---          09 30 44  42.9 212.0  1.5      18.9   600       75   22 30 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
 --- 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:    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=  21500.00  21500.00  21500.00  21500.00
   Net SB=         L         L         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 pcal sets:   1
  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:   5

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --   RadioAstron AGN fringe survey
    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)

  J0757+0956        07 54 22.579229   * 07 57 06.642950     07 57 51.830503       0.10
* 0754+100          10 04 39.66684    * 09 56 34.85224      09 54 12.87940        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)
  0754+100           152.2

 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
```

re03mgtr

RadioAstron AGN fringe survey

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```


```
Observing mode: C/L-band, dual-pol

Notes:    C/L-band, Radioastron-compatible frequency setup
          auto-level (AGC) is ON


Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron AGN fringe 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  Source               Start / Stop                Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Thu  14 Feb 2013   Day  45 ---

 ---------- C-band VLBI scans ----------

 Next scan frequencies:  4836.00  4836.00  4836.00  4836.00
 Next BBC frequencies:    636.00   636.00   636.00   636.00
 Next scan bandwidths:     16.00    16.00    16.00    16.00

16 20 00  0355+508     03 13 39  82.5 101.5 -0.8     -69.2     0        0   16 20 00
16 29 30  ---          03 23 10  83.9 106.3 -0.6     -66.3   570       18   16 20 01

16 30 00  0355+508     03 23 40  84.0 106.6 -0.6     -66.1    23       18   16 30 00
16 39 30  ---          03 33 12  85.3 113.8 -0.5     -60.8   570       37   16 30 01

16 40 00  0355+508     03 33 42  85.4 114.2 -0.4     -60.5    22       37   16 40 00
16 49 30  ---          03 43 13  86.6 126.5 -0.3     -50.1   570       55   16 40 01

16 50 00  0355+508     03 43 43  86.7 127.4 -0.3     -49.3    21       55   16 50 00
17 00 00  ---          03 53 45  87.7 152.9 -0.1     -25.7   600       75   16 50 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
   Matching groups in /home/kirx/sched/catalogs/freq.dat:
     tr6cm           E-mail Borkowski 23Apr03 (CR 1May03)

   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=   4200.00   4200.00   4200.00   4200.00
   Net SB=         L         L         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:   3  Setup file default.  Used pcal sets:   1
  LO sum=   4836.00  4836.00  4836.00  4836.00
  BBC fr=    636.00   636.00   636.00   636.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   3

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --   RadioAstron AGN fringe survey
    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)

  J0359+5057        03 55 45.261370   * 03 59 29.747271     04 00 30.648301       0.16
* 0355+508          50 49 20.28582    * 50 57 50.16177      51 00 10.72220        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)
  0355+508           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
```

re03mhtr

RadioAstron AGN fringe survey

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

Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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
--- Thu 14 Feb 2013 Day 45 ---										
---------- C-band VLBI scans ----------										
Next scan frequencies:		4836.00	4836.00	4836.00	4836.00					
Next BBC frequencies:		636.00	636.00	636.00	636.00					
Next scan bandwidths:		16.00	16.00	16.00	16.00					
18 00 00	0316+413	04 53 55	70.6	243.0	1.6		45.6	0	0	18 00 00
18 09 30	---	05 03 27	69.3	246.5	1.7		47.4	570	18	18 00 01
18 10 00	0316+413	05 03 57	69.2	246.7	1.7		47.5	24	18	18 10 00
18 19 30	---	05 13 28	67.9	250.0	1.9		48.9	570	37	18 10 01
18 20 00	0316+413	05 13 58	67.8	250.1	1.9		49.0	24	37	18 20 00
18 29 30	---	05 23 30	66.5	253.1	2.0		50.2	570	55	18 20 01
18 30 00	0316+413	05 24 00	66.4	253.2	2.1		50.2	24	55	18 30 00
18 40 00	---	05 34 02	64.9	256.1	2.2		51.2	600	75	18 30 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr6cm E-mail Borkowski 23Apr03 (CR 1May03)

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=	4200.00	4200.00	4200.00	4200.00
Net SB=	L	L	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 pcal sets:   1
  LO sum=   4836.00  4836.00  4836.00  4836.00
  BBC fr=    636.00   636.00   636.00   636.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   2

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --    RadioAstron AGN fringe survey
    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)

  J0319+4130        03 16 29.567260   * 03 19 48.160090     03 20 41.714658       1.30
* 0316+413          41 19 51.91699    * 41 30 42.10412      41 33 38.43134        2.72



 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)
  0316+413            92.4

 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:
      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
```

re03mitr

RadioAstron AGN fringe survey

PI: *Yuri Kovalev*


```
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```


```
Observing mode: C/L-band, dual-pol

Notes:    C/L-band, Radioastron-compatible frequency setup
          auto-level (AGC) is ON


Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron AGN fringe 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------

 --- Thu  14 Feb 2013   Day  45 ---

 ---------- C-band VLBI scans ----------

 Next scan frequencies:  4836.00  4836.00  4836.00  4836.00
 Next BBC frequencies:    636.00   636.00   636.00   636.00
 Next scan bandwidths:     16.00    16.00    16.00    16.00

20 00 00  0700-007     06 54 15  36.0 177.0 -0.2      -1.8     0        0   20 00 00
20 09 30  ---          07 03 46  36.0 179.9 -0.0      -0.0   570       18   20 00 01

20 10 00  0700-007     07 04 16  36.0 180.1  0.0       0.0    24       18   20 10 00
20 19 30  ---          07 13 48  36.0 183.0  0.2       1.8   570       37   20 10 01

20 20 00  0700-007     07 14 18  36.0 183.2  0.2       1.9    24       37   20 20 00
20 29 30  ---          07 23 50  35.9 186.1  0.3       3.7   570       55   20 20 01

20 30 00  0700-007     07 24 20  35.9 186.3  0.3       3.8    24       55   20 30 00
20 40 00  ---          07 34 21  35.7 189.3  0.5       5.6   600       75   20 30 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
   Matching groups in /home/kirx/sched/catalogs/freq.dat:
     tr6cm           E-mail Borkowski 23Apr03 (CR 1May03)

   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=   4200.00   4200.00   4200.00   4200.00
   Net SB=         L         L         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:   3  Setup file default.  Used pcal sets:   1
  LO sum=   4836.00  4836.00  4836.00  4836.00
  BBC fr=    636.00   636.00   636.00   636.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   3

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --        RadioAstron AGN fringe survey
    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)

  J0703-0051        07 00 46.258284   * 07 03 19.086610     07 04 01.131897       0.13
* 0700-007         -00 46 35.19212    *-00 51 03.15802     -00 52 29.16515       0.22



 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)
  0700-007           135.7

 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
      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
```

re06mtr

RadioAstron pulsar observations

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Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup
auto-level (AGC) is OFF

Schedule for TORUN (Code Tr) Page 2
RadioAstron pulsar 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	Source	LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Fri 15 Feb 2013 Day 46 ---										
---------- This is a 1min calibration scan with auto-level (AGC) ON ----------										
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					
18 18 00	CRAB	05 15 54	58.7	171.3	-0.3		-5.6	0	0	Stopped
18 19 00	---	05 16 55	58.7	171.7	-0.3		-5.3	60	0	
---------- Please make sure Pcal, noise diode (Tsys) and auto-level (AGC) are OFF now ----------										
18 20 00	CRAB	05 17 55	58.7	172.2	-0.3		-5.0	53	0	18 20 00
18 29 30	---	05 27 26	58.9	176.4	-0.1		-2.3	570	18	18 20 01
18 30 00	CRAB	05 27 56	58.9	176.7	-0.1		-2.2	23	18	18 30 00
18 39 30	---	05 37 28	58.9	180.9	0.0		0.6	570	37	18 30 01
18 40 00	CRAB	05 37 58	58.9	181.2	0.0		0.8	23	37	18 40 00
18 49 30	---	05 47 30	58.8	185.4	0.2		3.5	570	55	18 40 01
18 50 00	CRAB	05 48 00	58.8	185.7	0.2		3.7	23	55	18 50 00
18 59 30	---	05 57 31	58.6	189.9	0.4		6.4	570	74	18 50 01
19 00 00	CRAB	05 58 01	58.6	190.1	0.4		6.5	23	74	19 00 00
19 09 30	---	06 07 33	58.3	194.3	0.5		9.2	570	92	19 00 01
19 10 00	CRAB	06 08 03	58.3	194.5	0.5		9.4	23	92	19 10 00
19 19 30	---	06 17 35	57.9	198.6	0.7		11.9	570	110	19 10 01
19 20 00	CRAB	06 18 05	57.9	198.8	0.7		12.1	23	110	19 20 00
19 29 30	---	06 27 36	57.4	202.9	0.9		14.6	570	129	19 20 01
19 30 00	CRAB	06 28 06	57.3	203.1	0.9		14.7	23	129	19 30 00
19 39 30	---	06 37 38	56.7	207.0	1.0		17.1	570	147	19 30 01
19 40 00	CRAB	06 38 08	56.7	207.2	1.0		17.2	24	147	19 40 00
19 49 30	---	06 47 39	56.0	211.0	1.2		19.5	570	165	19 40 01
19 50 00	CRAB	06 48 10	56.0	211.2	1.2		19.6	24	165	19 50 00
19 59 30	---	06 57 41	55.2	214.8	1.4		21.7	570	184	19 50 01

```
Schedule for TORUN     (Code Tr )                                    Page   3
              RadioAstron pulsar 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ    HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------

 --- Fri  15 Feb 2013   Day  46 ---

20 00 00  CRAB         06 58 11  55.1 215.0  1.4      21.8    24      184   20 00 00
20 09 30  ---          07 07 43  54.3 218.5  1.5      23.8   570      202   20 00 01

20 10 00  CRAB         07 08 13  54.2 218.7  1.5      23.9    24      202   20 10 00
20 19 30  ---          07 17 44  53.3 222.1  1.7      25.7   570      221   20 10 01

20 20 00  CRAB         07 18 14  53.3 222.3  1.7      25.8    24      221   20 20 00
20 29 30  ---          07 27 46  52.3 225.5  1.9      27.5   570      239   20 20 01

20 30 00  CRAB         07 28 16  52.2 225.7  1.9      27.6    24      239   20 30 00
20 40 00  ---          07 38 18  51.1 229.0  2.0      29.3   600      258   20 30 01


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


 ======== Setup file: ra18cm2_autolevel.set
   Matching groups in /home/kirx/sched/catalogs/freq.dat:
     tr18cm          E-mail Borkowski 12Mar98, preferred alternative

   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:

   Disk used to record data.

   Setup not used for recording data.

   1st LO=   2300.00   2300.00   2300.00   2300.00
   Net SB=         L         L         U         U
   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:   2  Setup file default.  Used pcal sets:   1
   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:   2

  The following pulse cal sets were used with this setup:

   Pulse cal detection set:   1  PCAL = OFF
    PCALXB1=   S1    S2    S3    S4    OFF   OFF   OFF   OFF
    PCALXB2=   M1    M2    M3    M4    OFF   OFF   OFF   OFF
    PCALFR1=     0     0     0     0     0     0     0     0
    PCALFR2=     0     0     0     0     0     0     0     0
```

```
======== Setup file: ra18cm2.set
  Matching groups in /home/kirx/sched/catalogs/freq.dat:
    tr18cm          E-mail Borkowski 12Mar98, preferred alternative

  Setup group:    4         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=   2300.00   2300.00   2300.00   2300.00
  Net SB=         L         L         U         U
  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 pcal sets:   1
  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:   4

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = OFF
   PCALXB1=   S1    S2    S3    S4    OFF   OFF   OFF   OFF
   PCALXB2=   M1    M2    M3    M4    OFF   OFF   OFF   OFF
   PCALFR1=     0     0     0     0     0     0     0     0
   PCALFR2=     0     0     0     0     0     0     0     0

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

SOURCES USED IN RECORDING SCANS --   RadioAstron pulsar observations
    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)

* CRAB              05 31 31.427725   * 05 34 31.973000     05 35 21.158493       0.00
                    21 58 54.40670    * 22 00 52.06000      22 01 15.94690        0.00

 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)
  CRAB               117.0

 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:
      1.6 GHz         45. deg
      5.0 GHz         23. deg
     22.0 GHz          9. deg
```

re03mjtr

RadioAstron AGN fringe survey

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

Observing mode: C/K-band, dual-pol

Notes: C/K-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 Source	LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 19 Feb 2013 Day 50 ---									
---------- K-band VLBI scans ----------									
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									
07 50 00 1611+343	19 01 58	55.0	254.4	2.8		44.3	0	0	07 50 00
07 59 30 ---	19 11 29	53.6	256.8	3.0		45.0	570	18	07 50 01
08 00 00 1611+343	19 11 59	53.5	256.9	3.0		45.0	24	18	08 00 00
08 09 30 ---	19 21 31	52.1	259.2	3.1		45.5	570	37	08 00 01
08 10 00 1611+343	19 22 01	52.0	259.3	3.1		45.5	24	37	08 10 00
08 19 30 ---	19 31 32	50.6	261.5	3.3		45.9	570	55	08 10 01
08 20 00 1611+343	19 32 02	50.5	261.6	3.3		45.9	24	55	08 20 00
08 30 00 ---	19 42 04	49.0	263.8	3.5		46.2	600	75	08 20 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
--- 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=	21500.00	21500.00	21500.00	21500.00
Net SB=	L	L	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:   3  Setup file default.  Used pcal sets:   1
  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:   3

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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

SOURCES USED IN RECORDING SCANS --      RadioAstron AGN fringe survey
    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)

  J1613+3412        16 11 47.914251   * 16 13 41.064242     16 14 11.187897       0.12
* 1611+343          34 20 19.83376    * 34 12 47.90878      34 10 35.92851        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)
  1611+343            95.7

 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
      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
```

re02autr

RadioAstron H2O maser observations

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Observing mode: K-band, dual-pol

Notes: K-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron H2O 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	Source	LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Tue 19 Feb 2013 Day 50 ---										
---------- Please, make sure PCAL is OFF for VYCMA_H2O maser observations. ----------										
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						
20 00 00	VYCMA_H2O	07 13 57	11.1	177.8	-0.2		-1.5	0	0	20 00 00
20 09 30	---	07 23 29	11.1	180.0	-0.0		-0.0	570	18	20 00 01
20 10 00	VYCMA_H2O	07 23 59	11.1	180.1	0.0		0.1	24	18	20 10 00
20 19 30	---	07 33 31	11.1	182.3	0.2		1.5	570	37	20 10 01
20 20 00	VYCMA_H2O	07 34 01	11.1	182.4	0.2		1.6	24	37	20 20 00
20 29 30	---	07 43 32	11.0	184.6	0.3		3.1	570	55	20 20 01
20 30 00	VYCMA_H2O	07 44 02	11.0	184.7	0.3		3.1	24	55	20 30 00
20 40 00	---	07 54 04	10.8	187.0	0.5		4.7	600	75	20 30 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
--- 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: 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=	21500.00	21500.00	21500.00	21500.00
Net SB=	L	L	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 pcal sets:   1
  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

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = OFF
   PCALXB1=   S1    S2    S3    S4    OFF   OFF   OFF   OFF
   PCALXB2=   M1    M2    M3    M4    OFF   OFF   OFF   OFF
   PCALFR1=     0     0     0     0     0     0     0     0
   PCALFR2=     0     0     0     0     0     0     0     0

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

SOURCES USED IN RECORDING SCANS --    RadioAstron H2O maser observations
    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)

* VYCMA_H2O          07 20 54.733665   * 07 22 58.329060     07 23 32.732584       0.00
                    -25 40 12.42774    *-25 46 03.14100     -25 47 55.60161       0.00



 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)
  VYCMA_H2O          124.7

 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
      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
```

re03mltr

RadioAstron AGN fringe survey

PI: *Yuri Kovalev*


```
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```


```
Observing mode: C/L-band, dual-pol

Notes:    C/L-band, Radioastron-compatible frequency setup
          auto-level (AGC) is ON


Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron AGN fringe 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------

 --- Tue  19 Feb 2013   Day  50 ---

 ---------- C-band VLBI scans ----------

 Next scan frequencies:  4836.00  4836.00  4836.00  4836.00
 Next BBC frequencies:    636.00   636.00   636.00   636.00
 Next scan bandwidths:     16.00    16.00    16.00    16.00

22 30 00  1226+023     09 44 22  28.6 131.2 -2.8     -26.9     0        0   22 30 00
22 39 30  ---          09 53 54  29.6 133.7 -2.6     -25.8   570       18   22 30 01

22 40 00  1226+023     09 54 24  29.7 133.8 -2.6     -25.7    24       18   22 40 00
22 49 30  ---          10 03 55  30.7 136.3 -2.4     -24.5   570       37   22 40 01

22 50 00  1226+023     10 04 25  30.7 136.4 -2.4     -24.5    24       37   22 50 00
22 59 30  ---          10 13 57  31.7 139.0 -2.3     -23.2   570       55   22 50 01

23 00 00  1226+023     10 14 27  31.7 139.1 -2.3     -23.2    24       55   23 00 00
23 10 00  ---          10 24 29  32.7 141.9 -2.1     -21.8   600       75   23 00 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
   Matching groups in /home/kirx/sched/catalogs/freq.dat:
     tr6cm           E-mail Borkowski 23Apr03 (CR 1May03)

   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=   4200.00   4200.00   4200.00   4200.00
   Net SB=         L         L         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:   3  Setup file default.  Used pcal sets:   1
  LO sum=   4836.00  4836.00  4836.00  4836.00
  BBC fr=    636.00   636.00   636.00   636.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   3

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --       RadioAstron AGN fringe survey
    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)

  J1229+0203        12 26 33.245833   * 12 29 06.699729     12 29 48.919857       1.05
  3C273             02 19 43.30578    * 02 03 08.59828      01 58 34.73669        1.38
* 1226+023



 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           145.1

 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
```

re03mmtr

RadioAstron AGN fringe survey

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Observing mode: C/K-band, dual-pol

Notes: C/K-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 20 Feb 2013 Day 51 ---										
---------- C-band VLBI scans ----------										
Next scan frequencies:		4836.00	4836.00	4836.00	4836.00					
Next BBC frequencies:		636.00	636.00	636.00	636.00					
Next scan bandwidths:		16.00	16.00	16.00	16.00					
00 00 00	1253-055	11 14 37	27.2	151.1	-1.7		-16.9	0	0	00 00 00
00 09 30	---	11 24 08	27.9	153.7	-1.5		-15.5	570	18	00 00 01
00 10 00	1253-055	11 24 38	27.9	153.8	-1.5		-15.4	24	18	00 10 00
00 19 30	---	11 34 10	28.5	156.4	-1.4		-14.0	570	37	00 10 01
00 20 00	1253-055	11 34 40	28.5	156.6	-1.4		-13.9	24	37	00 20 00
00 29 30	---	11 44 12	29.1	159.2	-1.2		-12.4	570	55	00 20 01
00 30 00	1253-055	11 44 42	29.1	159.3	-1.2		-12.3	24	55	00 30 00
00 40 00	---	11 54 43	29.6	162.1	-1.0		-10.7	600	75	00 30 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr6cm E-mail Borkowski 23Apr03 (CR 1May03)

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=	4200.00	4200.00	4200.00	4200.00
Net SB=	L	L	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:   3  Setup file default.  Used pcal sets:   1
  LO sum=   4836.00  4836.00  4836.00  4836.00
  BBC fr=    636.00   636.00   636.00   636.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   3

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --    RadioAstron AGN fringe survey
    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)

  J1256-0547         12 53 35.831299   * 12 56 11.166567     12 56 53.867220       0.69
  3C279             -05 31 07.99595    *-05 47 21.52481     -05 51 46.95365        0.92
* 1253-055


 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           136.2

 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
```

re03mntr

RadioAstron AGN fringe survey

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Observing mode: C/K-band, dual-pol

Notes: C/K-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 Source	LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 20 Feb 2013 Day 51 ---									
---------- K-band VLBI scans ----------									
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									
00 50 00 1334-127	12 04 45	20.9	155.5	-1.6		-14.8	0	0	00 50 00
00 59 30 ---	12 14 17	21.5	157.9	-1.4		-13.4	570	18	00 50 01
01 00 00 1334-127	12 14 47	21.5	158.1	-1.4		-13.3	24	18	01 00 00
01 09 30 ---	12 24 18	22.0	160.5	-1.2		-11.9	570	37	01 00 01
01 10 00 1334-127	12 24 48	22.0	160.6	-1.2		-11.8	24	37	01 10 00
01 19 30 ---	12 34 20	22.5	163.1	-1.1		-10.3	570	55	01 10 01
01 20 00 1334-127	12 34 50	22.5	163.2	-1.1		-10.2	24	55	01 20 00
01 30 00 ---	12 44 52	22.9	165.8	-0.9		-8.7	600	75	01 20 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
--- 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: 5 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
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 pcal sets:   1
  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

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --    RadioAstron AGN fringe survey
    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)

  J1337-1257        13 34 59.803872   * 13 37 39.782777     13 38 23.628765       0.10
* 1334-127         -12 42 09.74318    *-12 57 24.69345     -13 01 30.72558       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)
  1334-127           124.0

 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
```

re03mqtr

RadioAstron AGN fringe survey

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


```
Observing mode: C/K-band, dual-pol

Notes:    C/K-band, Radioastron-compatible frequency setup
          auto-level (AGC) is ON


Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron AGN fringe 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  Source               Start / Stop                Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------------

 --- Wed  20 Feb 2013   Day  51 ---

 ---------- C-band VLBI scans ----------

 Next scan frequencies:  4836.00  4836.00  4836.00  4836.00
 Next BBC frequencies:    636.00   636.00   636.00   636.00
 Next scan bandwidths:     16.00    16.00    16.00    16.00

13 00 00  0355+508     00 16 45  56.4  70.5 -3.7     -64.1     0        0   13 00 00
13 09 30  ---          00 26 17  57.8  71.7 -3.6     -64.9   570       18   13 00 01

13 10 00  0355+508     00 26 47  57.8  71.7 -3.6     -65.0    24       18   13 10 00
13 19 30  ---          00 36 18  59.2  72.9 -3.4     -65.8   570       37   13 10 01

13 20 00  0355+508     00 36 48  59.3  73.0 -3.4     -65.8    24       37   13 20 00
13 29 30  ---          00 46 20  60.6  74.2 -3.2     -66.7   570       55   13 20 01

13 30 00  0355+508     00 46 50  60.7  74.3 -3.2     -66.7    24       55   13 30 00
13 40 00  ---          00 56 52  62.2  75.5 -3.1     -67.5   600       75   13 30 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
   Matching groups in /home/kirx/sched/catalogs/freq.dat:
     tr6cm           E-mail Borkowski 23Apr03 (CR 1May03)

   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=   4200.00   4200.00   4200.00   4200.00
   Net SB=         L         L         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:   3  Setup file default.  Used pcal sets:   1
  LO sum=   4836.00  4836.00  4836.00  4836.00
  BBC fr=    636.00   636.00   636.00   636.00
  Bandwd=     16.00    16.00    16.00    16.00
   Matching frequency sets:   3

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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

SOURCES USED IN RECORDING SCANS --    RadioAstron AGN fringe survey
    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)

  J0359+5057        03 55 45.261370   * 03 59 29.747271     04 00 30.499420       0.16
* 0355+508          50 49 20.28582    * 50 57 50.16177      51 00 10.51016        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)
  0355+508            95.9

 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
```

re03mrtr

RadioAstron AGN fringe survey

PI: *Yuri Kovalev*


```
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```


```
Observing mode: C/L-band, dual-pol

Notes:    C/L-band, Radioastron-compatible frequency setup
          auto-level (AGC) is ON


Schedule for TORUN     (Code Tr )                                    Page   2
               RadioAstron AGN fringe 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  Source               Start / Stop                 Early    Disk   TPStart
Stop UT                  LST      EL    AZ   HA  UP   ParA  Dwell   GBytes    SYNC
-------------------------------------------------------------------------------------

 --- Wed  20 Feb 2013   Day  51 ---

 ---------- 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

14 40 00  0446+112     01 57 01  35.9 124.0 -2.9     -30.5     0        0   14 40 00
14 49 30  ---          02 06 33  37.1 126.5 -2.7     -29.5   570       18   14 40 01

14 50 00  0446+112     02 07 03  37.2 126.7 -2.7     -29.4    24       18   14 50 00
14 59 30  ---          02 16 35  38.3 129.2 -2.6     -28.3   570       37   14 50 01

15 00 00  0446+112     02 17 05  38.3 129.4 -2.5     -28.3    24       37   15 00 00
15 09 30  ---          02 26 36  39.4 132.0 -2.4     -27.1   570       55   15 00 01

15 10 00  0446+112     02 27 06  39.5 132.2 -2.4     -27.0    24       55   15 10 00
15 20 00  ---          02 37 08  40.6 135.1 -2.2     -25.6   600       75   15 10 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
   Matching groups in /home/kirx/sched/catalogs/freq.dat:
     tr18cm          E-mail Borkowski 12Mar98, preferred alternative

   Setup group:    4         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=   2300.00   2300.00   2300.00   2300.00
   Net SB=         L         L         U         U
   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:   5  Setup file default.  Used pcal sets:   1
  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:   5

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --    RadioAstron AGN fringe survey
    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)

  J0449+1121        04 46 21.217284   * 04 49 07.671104     04 49 52.744169       0.10
* 0446+112          11 16 17.84557    * 11 21 28.59636      11 22 41.47274        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)
  0446+112           100.2

 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
```

re03mstr

RadioAstron AGN fringe survey

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Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 20 Feb 2013 Day 51 ---										
---------- 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					
16 20 00	0716+714	03 37 18	59.7	32.0	-3.8		-96.5	0	0	16 20 00
16 29 30	---	03 46 49	60.5	31.8	-3.6		-99.0	570	18	16 20 01
16 30 00	0716+714	03 47 19	60.5	31.8	-3.6		-99.1	24	18	16 30 00
16 39 30	---	03 56 51	61.3	31.5	-3.4		-101.6	570	37	16 30 01
16 40 00	0716+714	03 57 21	61.3	31.5	-3.4		-101.7	24	37	16 40 00
16 49 30	---	04 06 53	62.0	31.1	-3.3		-104.3	570	55	16 40 01
16 50 00	0716+714	04 07 23	62.1	31.1	-3.3		-104.5	24	55	16 50 00
17 00 00	---	04 17 24	62.9	30.6	-3.1		-107.3	600	75	16 50 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

Setup group: 5 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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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:   6  Setup file default.  Used pcal sets:   1
  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:   6

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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

SOURCES USED IN RECORDING SCANS --   RadioAstron AGN fringe survey
    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)

  J0721+7120        07 16 13.029741   * 07 21 53.448476     07 23 27.235618       0.31
* 0716+714          71 26 15.17406    * 71 20 36.36340      71 19 05.32205        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)
  0716+714           113.9

 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
```

re03mttr

RadioAstron AGN fringe survey

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Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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	Source	LST	EL	AZ	HA	UP	ParA	Early Dwell	Disk GBytes	TPStart SYNC
--- Wed 20 Feb 2013 Day 51 ---										
---------- 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					
18 00 00	0738+313	05 17 34	56.0	115.6	-2.4		-39.3	0	0	18 00 00
18 09 30	---	05 27 06	57.3	118.5	-2.2		-38.1	570	18	18 00 01
18 10 00	0738+313	05 27 36	57.3	118.7	-2.2		-38.0	24	18	18 10 00
18 19 30	---	05 37 07	58.6	121.7	-2.1		-36.6	570	37	18 10 01
18 20 00	0738+313	05 37 38	58.6	121.9	-2.1		-36.6	24	37	18 20 00
18 29 30	---	05 47 09	59.8	125.1	-1.9		-35.0	570	55	18 20 01
18 30 00	0738+313	05 47 39	59.9	125.3	-1.9		-34.9	24	55	18 30 00
18 40 00	---	05 57 41	61.1	128.9	-1.7		-33.1	600	75	18 30 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

Setup group: 5 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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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:   6  Setup file default.  Used pcal sets:   1
  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:   6

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --       RadioAstron AGN fringe survey
    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)

  J0741+3112        07 38 00.178559   * 07 41 10.703308     07 42 02.987191       0.18
* 0738+313          31 19 02.05925    * 31 12 00.22924      31 09 59.15080        1.24



 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)
  0738+313           138.7

 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
      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
```

re03mutr

RadioAstron AGN fringe survey

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Observing mode: C/K-band, dual-pol

Notes: C/K-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 20 Feb 2013 Day 51 ---										
---------- K-band VLBI scans ----------										
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					
20 50 00	0923+392	08 08 02	70.3	127.9	-1.3		-37.6	0	0	20 50 00
20 59 30	---	08 17 34	71.4	132.4	-1.2		-34.7	570	18	20 50 01
21 00 00	0923+392	08 18 04	71.5	132.7	-1.2		-34.6	23	18	21 00 00
21 09 30	---	08 27 35	72.5	137.7	-1.0		-31.3	570	37	21 00 01
21 10 00	0923+392	08 28 05	72.6	138.0	-1.0		-31.1	23	37	21 10 00
21 19 30	---	08 37 37	73.5	143.5	-0.8		-27.3	570	55	21 10 01
21 20 00	0923+392	08 38 07	73.5	143.8	-0.8		-27.1	23	55	21 20 00
21 30 00	---	08 48 09	74.3	150.2	-0.7		-22.6	600	75	21 20 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
--- 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: 5 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
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 pcal sets:   1
  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

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --     RadioAstron AGN fringe survey
    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)

  J0927+3902        09 23 55.319217   * 09 27 03.013938     09 27 54.720429       0.13
* 0923+392          39 15 23.56637    * 39 02 20.85177      38 58 41.63228        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)
  0923+392           149.6

 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
```

re03mvtr

RadioAstron AGN fringe survey

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

Observing mode: C/L-band, dual-pol

Notes: C/L-band, Radioastron-compatible frequency setup
auto-level (AGC) is ON

Schedule for TORUN (Code Tr) Page 2
RadioAstron AGN fringe 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 20 Feb 2013 Day 51 ---										
---------- 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					
22 30 00	1226+023	09 48 19	29.0	132.3	-2.7		-26.4	0	0	22 30 00
22 39 30	---	09 57 50	30.0	134.7	-2.5		-25.3	570	18	22 30 01
22 40 00	1226+023	09 58 20	30.1	134.8	-2.5		-25.2	24	18	22 40 00
22 49 30	---	10 07 52	31.1	137.4	-2.4		-24.0	570	37	22 40 01
22 50 00	1226+023	10 08 22	31.1	137.5	-2.4		-24.0	24	37	22 50 00
22 59 30	---	10 17 53	32.1	140.1	-2.2		-22.7	570	55	22 50 01
23 00 00	1226+023	10 18 24	32.1	140.2	-2.2		-22.6	24	55	23 00 00
23 10 00	---	10 28 25	33.1	143.0	-2.0		-21.2	600	75	23 00 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
Matching groups in /home/kirx/sched/catalogs/freq.dat:
tr18cm E-mail Borkowski 12Mar98, preferred alternative

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=	2300.00	2300.00	2300.00	2300.00
Net SB=	L	L	U	U
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 pcal sets:   1
  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:   7

 The following pulse cal sets were used with this setup:

  Pulse cal detection set:   1  PCAL = 1MHZ
   PCALXB1=   S1    S3    S1    S3    S1    S2    S3    S4
   PCALXB2=   S2    S4    S2    S4    M1    M2    M3    M4
   PCALFR1=  1000  1000 13000 13000     0     0     0     0
   PCALFR2=  1000  1000 13000 13000     0     0     0     0

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


SOURCES USED IN RECORDING SCANS --   RadioAstron AGN fringe survey
    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)

  J1229+0203        12 26 33.245833   * 12 29 06.699729     12 29 48.943275       1.05
  3C273             02 19 43.30578    * 02 03 08.59828      01 58 34.61024        1.38
* 1226+023


 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           146.1

 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
```

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