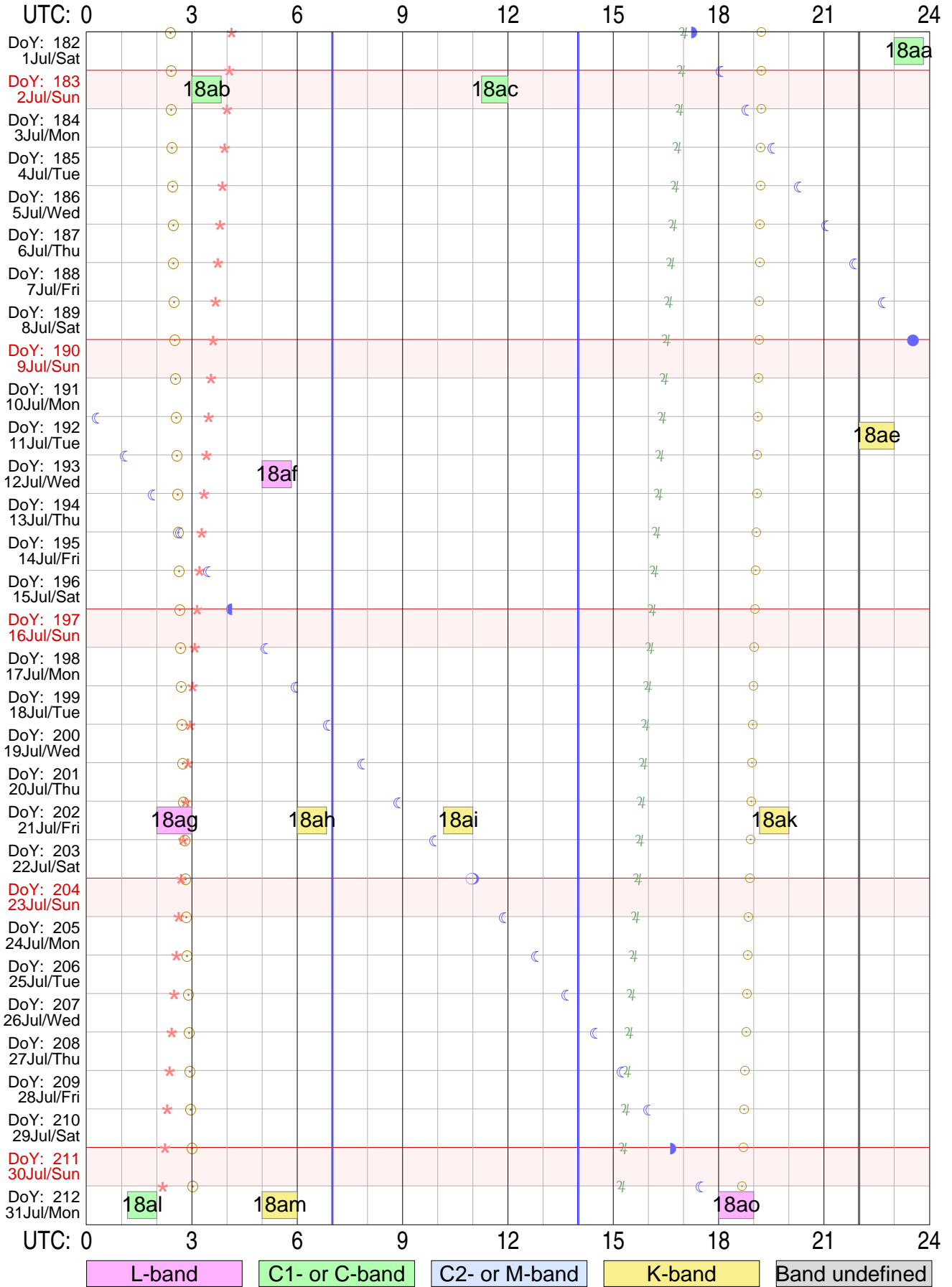


Tr VLBI plan for Jul 2017



Version: 2017.06.28

Sky events at Tr: ○ Sunrise & sunset ☾☽☾☽☾ Transit of Moon ♃ Transit of Jupiter * Transit of Aries (0h ST)
 Vertical lines in blue mark operator shift times at Tr *Total observing time: 10.6 hours in 12 experiments scheduled*
 Initial characters 'rk' are omitted from RA experiment names!

Strona zostawiona celowo pusta

RadioAstron & EVN Experiments

Jul 2017

Uytownik ftp dla logw i schedulw RA: grt

ftp://webinet.asc.rssi.ru

Przykad dla log files: cd GRT_log_files/2014_09/2014_09_01_raks08ak

Przykad dla sched files: cd schedule/grtsched/RAKS/rk08ak

Year = 2017, 2nd line is: Year Date UTstart UTstop Exper. xxComment							
Nr	D	M	<=Dur	Exper. name			Comment
1	1.07	0.8	18aa				C
2	2.07	0.8	18ab				C
3	2.07	0.8	18ac				C
4	11.07	1.0	18ae				K
5	12.07	0.8	18af				L
6	21.07	1.0	18ag				L
7	21.07	0.8	18ah				K
8	21.07	0.8	18ai				K
9	21.07	0.8	18ak				K
10	31.07	0.8	18al				C
11	31.07	1.0	18am				K
12	31.07	1.0	18ao				L

Summer time (DST): Mar 26 to Oct 29, 2017

Total observing time: 10.6 hours in 12 experiments

Plik pdf tego dokumentu jest dost/epny w sieci pod adresem:

<http://paulo.astro.uni.torun.pl/~pw/VLBI/schedules/jul17.pdf>

rk18aatr

RADIOASTRON AGN MONITORING
PI: *Yuri Kovalev*

Address: ASC Lebedev Profsoyuznaya 84/32 117997 Moscow, Russia
Phone: +7-495-3332512 EMAIL: kirx@scan.sai.msu.ru
Fax: +7-495-3332378 Phone during observation: +7-903-6614865

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Monitoring

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes 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 1 Jul 2017 Day 182 ---

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

Next scan frequencies: 4836.00 4836.00 4836.00 4836.00

Next BBC frequencies: 736.00 736.00 736.00 736.00

Next scan bandwidths: 16.00 16.00 16.00 16.00

23 00 00	1633+382	18 55 00	61.8	251.9	2.3	46.5	0	0	23 00 00
23 24 30	---	19 19 34	58.3	258.5	2.7	48.4	1470	47	23 00 01
23 25 00	1633+382	19 20 04	58.2	258.6	2.7	48.4	24	47	23 25 00
23 50 00	---	19 45 08	54.5	264.5	3.2	49.4	1500	95	23 25 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

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

Disk used to record data.

```

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

```

The following frequency sets based on these setups were used.

```

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

```

Track assignments are:

```

track1=  2, 18,  3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 44.189130	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 32.90749	0.00
	fake circumpolar target for a TS to look at			
* 1633+382	16 33 30.625100	* 16 35 15.492975	16 35 53.114847	0.00
J1635+3808	38 14 10.08266	* 38 08 04.50043	38 06 14.58511	0.00
4C38.41	./rk18aa_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 16451 observations, RA-A03-04, RA-A03-0			

EFFECT OF SOLAR CORONA

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

```

Source      Sun distance (deg)
1633+382   111.8

```

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 $60 \text{ deg } F^{-0.6}$ where F is in GHz.

For common VLBI bands, this is:

```

1.6 GHz      45. deg
2.3 GHz      36. deg
5.0 GHz      23. deg
8.4 GHz      17. deg
15.0 GHz     12. deg
22.0 GHz     9. deg

```

rk18abtr

RADIOASTRON AGN MONITORING

PI: *Yuri Kovalev*

Address: ASC Lebedev Profsoyuznaya 84/32 117997 Moscow, Russia
Phone: +7-495-3332512 EMAIL: kirx@scan.sai.msu.ru
Fax: +7-495-3332378 Phone during observation: +7-903-6614865

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Monitoring

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.

Early: Seconds between end of slew and start. Dwell: On source seconds.

Disk: GBytes 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 2 Jul 2017 Day 183 ---

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

```
Next scan frequencies: 4836.00 4836.00 4836.00 4836.00  
Next BBC frequencies:    736.00    736.00    736.00    736.00  
Next scan bandwidths:    16.00    16.00    16.00    16.00
```

```
03 00 00 2230+114    22 55 39 48.5 188.2 0.4                      5.0    0                      0    03 00 00  
03 12 00 ---                      23 07 41 48.2 192.6 0.6                      7.7    720                      23    03 00 01  
  
03 12 30 2230+114    23 08 11 48.1 192.8 0.6                      7.8    24                      23    03 12 30  
03 24 30 ---                      23 20 13 47.7 197.1 0.8                      10.4    720                      46    03 12 31  
  
03 25 00 2230+114    23 20 43 47.7 197.3 0.8                      10.5    24                      46    03 25 00  
03 37 00 ---                      23 32 45 47.1 201.6 1.0                      13.0    720                      69    03 25 01  
  
03 37 30 2230+114    23 33 15 47.0 201.7 1.0                      13.1    24                      69    03 37 30  
03 50 00 ---                      23 45 47 46.3 206.1 1.2                      15.6    750                      93    03 37 31
```

SETUP FILE INFORMATION:

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

=====
Setup file: ra6cm2.set

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

```

The following frequency sets based on these setups were used.

```

Frequency Set:  3  Setup file default.  Used with PCAL = 1MHz
LO sum=  4836.00  4836.00  4836.00  4836.00
BBC fr=   736.00   736.00   736.00   736.00
Bandwd=   16.00   16.00   16.00   16.00
Matching frequency sets:  3

```

Track assignments are:

```

track1=  2, 18,  3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 44.148477	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 32.89259	0.00
	fake circumpolar target for a TS to look at			
* 2230+114	22 30 07.803947	* 22 32 36.408905	22 33 28.679999	0.00
J2232+1143	11 28 22.81067	* 11 43 50.90395	11 49 14.15687	0.00
CTA102	./rk18ab_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 5100 observations, RA-A04-06, RA-A03-04			

EFFECT OF SOLAR CORONA

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

```

Source      Sun distance (deg)
2230+114    114.2

```

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 $60 \text{ deg } F^{-0.6}$ where F is in GHz.

For common VLBI bands, this is:

```

1.6 GHz      45. deg
2.3 GHz      36. deg
5.0 GHz      23. deg
8.4 GHz      17. deg
15.0 GHz     12. deg
22.0 GHz     9. deg

```

rk18actr

RADIOASTRON AGN MONITORING RB TEST
PI: *Yuri Kovalev*

Address: ASC Lebedev Profsoyuznaya 84/32 117997 Moscow, Russia
Phone: +7-495-3332512 EMAIL: kirx@scan.sai.msu.ru
Fax: +7-495-3332378 Phone during observation: +7-903-6614865

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

Schedule for TORUN (Code Tr) Page 2

RadioAstron AGN Monitoring RB test

UP: D => Below limits; H => Below horizon mask; W => still slewing at end; blank => Up.
Early: Seconds between end of slew and start. Dwell: On source seconds.
Disk: GBytes 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 1 Jul 2017 Day 182 ---

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

Next scan frequencies: 4836.00 4836.00 4836.00 4836.00
Next BBC frequencies: 736.00 736.00 736.00 736.00
Next scan bandwidths: 16.00 16.00 16.00 16.00

11 15 00	2200+420	07 08 04	12.6 -31.6	9.1	25.2	0	0	11 15 00
11 26 45	---	07 19 51	11.7 -29.6	9.3	23.7	705	23	11 15 01
11 27 15	2200+420	07 20 21	11.7 -29.5	9.3	23.6	24	23	11 27 15
11 39 00	---	07 32 08	10.9 -27.5	9.5	22.0	705	45	11 27 16
11 40 00	2200+420	07 33 08	10.8 -27.3	9.5	21.9	54	45	11 40 00
11 49 45	---	07 42 55	10.1 -25.6	9.7	20.6	585	64	11 40 01
11 50 15	2200+420	07 43 25	10.1 -25.5	9.7	20.5	24	64	11 50 15
12 00 00	---	07 53 11	9.5 -23.8	9.8	19.1	585	83	11 50 16

SETUP FILE INFORMATION:

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

=====
Setup file: ra6cm2.set

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

Disk used to record data.


```

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

```

The following frequency sets based on these setups were used.

```

Frequency Set:  4  Setup file default.  Used with PCAL = 1MHz
LO sum=  4836.00  4836.00  4836.00  4836.00
BBC fr=   736.00   736.00   736.00   736.00
Bandwd=   16.00   16.00   16.00   16.00
Matching frequency sets:  4

```

Track assignments are:

```

track1=  2, 18,  3, 19
barrel=roll_off

```

POSITIONS OF SOURCES USED IN RECORDING SCANS

Source	Source position (RA/Dec) (B1950)	(J2000)	(Date)	Error (mas)
* FAKERA	11 57 21.769299	* 12 00 00.000000	12 00 44.070268	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 32.86291	0.00
	fake circumpolar target for a TS to look at			
* 2200+420	22 00 39.362504	* 22 02 43.291371	22 03 27.824924	0.00
J2202+4216	42 02 08.59073	* 42 16 39.97987	42 21 37.40034	0.00
BLLAC	./rk18ac_sources.radioastron			
	AGN, rfc_2013d Petrov, 2013, unpublished 59417 observations, RA-A04-07, RA-A03-0			

EFFECT OF SOLAR CORONA

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

```

Source          Sun distance (deg)
2200+420        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 $60 \text{ deg } F^{-0.6}$ where F is in GHz.

For common VLBI bands, this is:

```

1.6 GHz        45. deg
2.3 GHz        36. deg
5.0 GHz        23. deg
8.4 GHz        17. deg
15.0 GHz       12. deg
22.0 GHz        9. deg

```

Contents

Graphical Plan of Experiments in Jul 2017	1
Experiment Listing	3
rk18aatr – RadioAstron AGN Monitoring	4
rk18abtr – RadioAstron AGN Monitoring	6
rk18actr – RadioAstron AGN Monitoring RB test	8