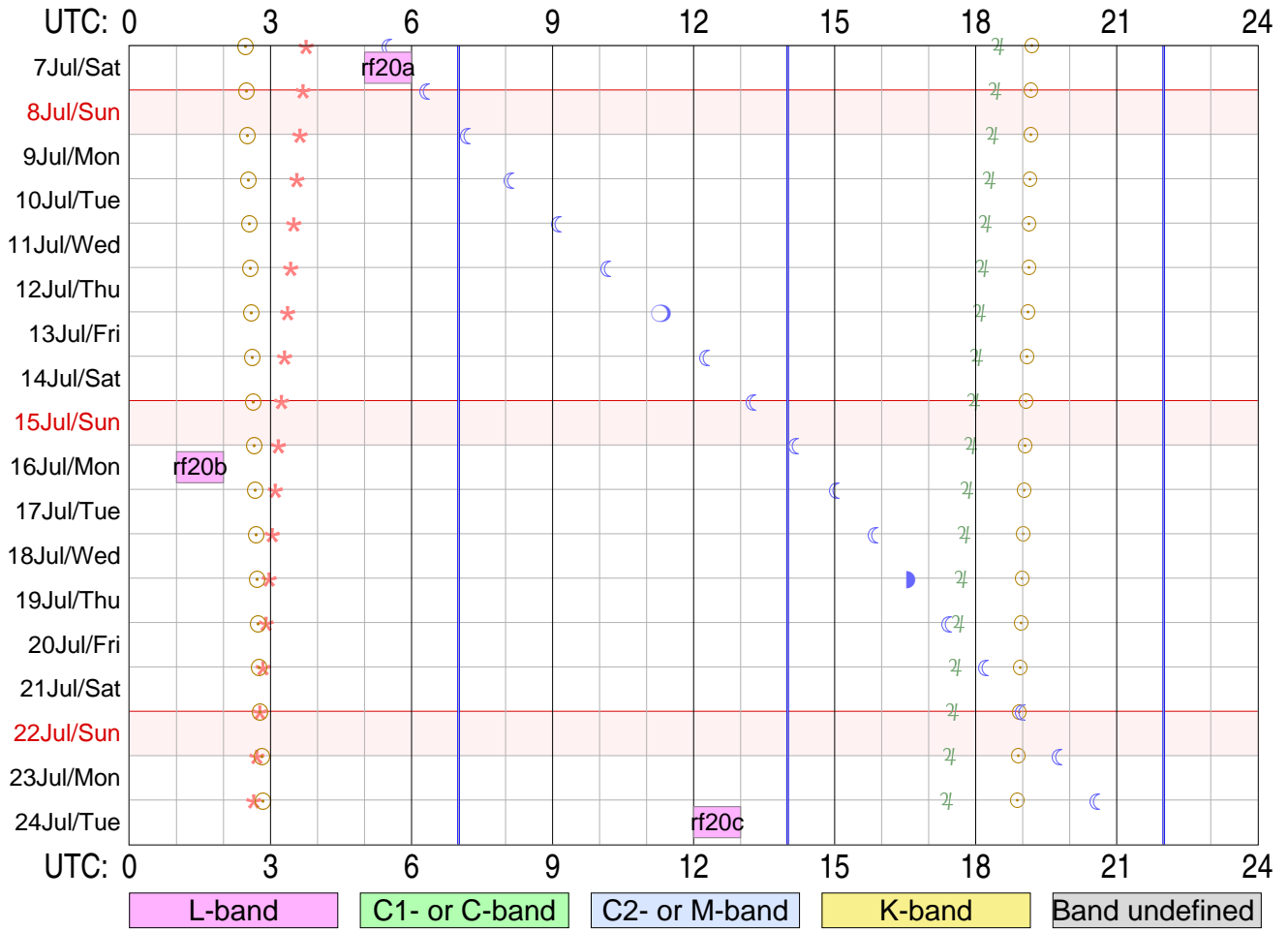


# Tr VLBI plan for Jul 2018



Version: 2018.07.06

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: 3.0 hours in 3 experiments scheduled*

Strona zostawiona celowo pusta

# RadioAstron & EVN Experiments

## Jul 2018

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 = 2018, 2nd line is: Year  Date   UTstart UTstop Exper.  xxComment
Nr  D  M  <=Dur Exper. name                Comment
 1  7.07  1.0 |rf20a                        |C
 2 16.07  1.0 |rf20b                        |C
 3 24.07  1.0 |rf20c                        |C
Summer time (DST): Mar 25 to Oct 28, 2018
Total observing time:  3.0 hours in  3 experiments
```

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

<http://paulo.astro.uni.torun.pl/~pw/VLBI/schedules/jul18.pdf>

rf20asc.tr

**rf20atr**

RADIOASTRON FRINGE TEST

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

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

Schedule for TORUN                      (Code Tr )    Page    2

RadioAstron fringe 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    7 Jul 2018    Day 188 ---

----- L-band VLBI scans -----

Next scan frequencies:	1668.00	1668.00	1668.00	1668.00						
Next BBC frequencies:	732.00	732.00	732.00	732.00						
Next scan bandwidths:	16.00	16.00	16.00	16.00						
05 00 00	2200+420	01 14 44	56.8	270.8	3.2	54.4	0	0	05 00 00	
05 09 30	---	01 24 16	55.4	272.7	3.3	54.3	570	18	05 00 01	
05 10 00	2200+420	01 24 46	55.3	272.8	3.4	54.3	24	18	05 10 00	
05 19 30	---	01 34 18	53.9	274.5	3.5	54.1	570	36	05 10 01	
05 20 00	2200+420	01 34 48	53.8	274.6	3.5	54.1	24	36	05 20 00	
05 29 30	---	01 44 19	52.4	276.3	3.7	53.9	570	55	05 20 01	
05 30 00	2200+420	01 44 49	52.3	276.4	3.7	53.9	24	55	05 30 00	
05 39 30	---	01 54 21	50.9	278.1	3.8	53.6	570	73	05 30 01	
05 40 00	2200+420	01 54 51	50.8	278.2	3.9	53.6	24	73	05 40 00	
05 49 30	---	02 04 22	49.4	279.8	4.0	53.2	570	91	05 40 01	
05 50 00	2200+420	02 04 53	49.3	279.9	4.0	53.2	24	91	05 50 00	
06 00 00	---	02 14 54	47.8	281.6	4.2	52.8	600	110	05 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

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

Disk used to record data.

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

The following frequency sets based on these setups were used.

Frequency Set: 5 Setup file default. Used with PCAL = 1MHz  
 LO sum= 1668.00 1668.00 1668.00 1668.00  
 BBC fr= 732.00 732.00 732.00 732.00  
 Bandwd= 16.00 16.00 16.00 16.00  
 Matching frequency sets: 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 47.538916	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 13.98259	0.00
	fake circumpolar target for a TS to look at			
* 2200+420	22 00 39.362504	* 22 02 43.291371	22 03 30.100046	0.00
J2202+4216	42 02 08.59073	* 42 16 39.97987	42 21 53.62582	0.00
BLLAC	./rf20a_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	103.2

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

**rf20btr**

RADIOASTRON FRINGE TEST

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

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

Schedule for TORUN                      (Code Tr )    Page    2

RadioAstron fringe 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  
-----

--- Mon 16 Jul 2018    Day 197 ---

----- L-band VLBI scans -----

Next scan frequencies:	1668.00	1668.00	1668.00	1668.00							
Next BBC frequencies:	732.00	732.00	732.00	732.00							
Next scan bandwidths:	16.00	16.00	16.00	16.00							
01 00 00	2200+420	21 49 34	79.0	166.4	-0.2		-11.0	0	0	01 00 00	
01 09 30	---	21 59 05	79.2	175.6	-0.1		-3.6	570	18	01 00 01	
01 10 00	2200+420	21 59 36	79.3	176.1	-0.1		-3.2	22	18	01 10 00	
01 19 30	---	22 09 07	79.2	185.6	0.1		4.5	570	36	01 10 01	
01 20 00	2200+420	22 09 37	79.2	186.0	0.1		4.9	22	36	01 20 00	
01 29 30	---	22 19 09	79.0	195.2	0.3		12.3	570	55	01 20 01	
01 30 00	2200+420	22 19 39	78.9	195.7	0.3		12.7	22	55	01 30 00	
01 39 30	---	22 29 10	78.4	204.3	0.4		19.6	570	73	01 30 01	
01 40 00	2200+420	22 29 40	78.4	204.8	0.4		19.9	22	73	01 40 00	
01 49 30	---	22 39 12	77.7	212.6	0.6		26.0	570	91	01 40 01	
01 50 00	2200+420	22 39 42	77.7	213.0	0.6		26.3	23	91	01 50 00	
02 00 00	---	22 49 44	76.8	220.4	0.8		31.8	600	110	01 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

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

Disk used to record data.

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

The following frequency sets based on these setups were used.

Frequency Set: 5 Setup file default. Used with PCAL = 1MHz  
 LO sum= 1668.00 1668.00 1668.00 1668.00  
 BBC fr= 732.00 732.00 732.00 732.00  
 Bandwd= 16.00 16.00 16.00 16.00  
 Matching frequency sets: 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 45.798273	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 12.35258	0.00
	fake circumpolar target for a TS to look at			
* 2200+420	22 00 39.362504	* 22 02 43.291371	22 03 30.347822	0.00
J2202+4216	42 02 08.59073	* 42 16 39.97987	42 21 56.48932	0.00
BLLAC	./rf20b_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	108.3

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  $60 \text{ deg } F^{-0.6}$  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



**rf20ctr**

RADIOASTRON FRINGE TEST

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

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

Schedule for TORUN                      (Code Tr )    Page    2

RadioAstron fringe 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  
-----

--- Tue 24 Jul 2018    Day 205 ---

----- L-band VLBI scans -----

Next scan frequencies:	1668.00	1668.00	1668.00	1668.00						
Next BBC frequencies:	732.00	732.00	732.00	732.00						
Next scan bandwidths:	16.00	16.00	16.00	16.00						
12 00 00	1641+399	09 22 55	20.6	50.4	-7.3		-37.0	0	0	12 00 00
12 09 30	---	09 32 26	21.8	52.0	-7.2		-38.0	570	18	12 00 01
12 10 00	1641+399	09 32 56	21.8	52.1	-7.2		-38.0	24	18	12 10 00
12 19 30	---	09 42 28	23.0	53.6	-7.0		-39.0	570	36	12 10 01
12 20 00	1641+399	09 42 58	23.0	53.7	-7.0		-39.0	24	36	12 20 00
12 29 30	---	09 52 30	24.2	55.2	-6.9		-39.9	570	55	12 20 01
12 30 00	1641+399	09 53 00	24.2	55.3	-6.8		-40.0	24	55	12 30 00
12 39 30	---	10 02 31	25.4	56.9	-6.7		-40.9	570	73	12 30 01
12 40 00	1641+399	10 03 01	25.5	56.9	-6.7		-40.9	24	73	12 40 00
12 49 30	---	10 12 33	26.7	58.5	-6.5		-41.8	570	91	12 40 01
12 50 00	1641+399	10 13 03	26.8	58.5	-6.5		-41.8	24	91	12 50 00
13 00 00	---	10 23 05	28.1	60.2	-6.3		-42.7	600	110	12 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

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

The following frequency sets based on these setups were used.

Frequency Set: 5 Setup file default. Used with PCAL = 1MHz  
 LO sum= 1668.00 1668.00 1668.00 1668.00  
 BBC fr= 732.00 732.00 732.00 732.00  
 Bandwd= 16.00 16.00 16.00 16.00  
 Matching frequency sets: 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 44.152562	0.00
	85 16 41.77889	* 85 00 00.000000	84 54 10.71470	0.00
	fake circumpolar target for a TS to look at			
* 1641+399	16 41 17.606226	* 16 42 58.809963	16 43 36.866762	0.00
3C345	39 54 10.81479	* 39 48 36.99385	39 46 54.66942	0.00
J1642+3948	./rf20c_sources.radioastron AGN, rfc_20143, RA-A06-12			

#### 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)
1641+399	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  $60 \text{ deg } F^{-0.6}$  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

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