

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-07T00:13:09.850
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3425402036796599808
 2Mass ID (if available) : 06081448+2341490

ICRS Star Coord at Epoch: 06h 08m 14.48141s +23:41:49.03190s

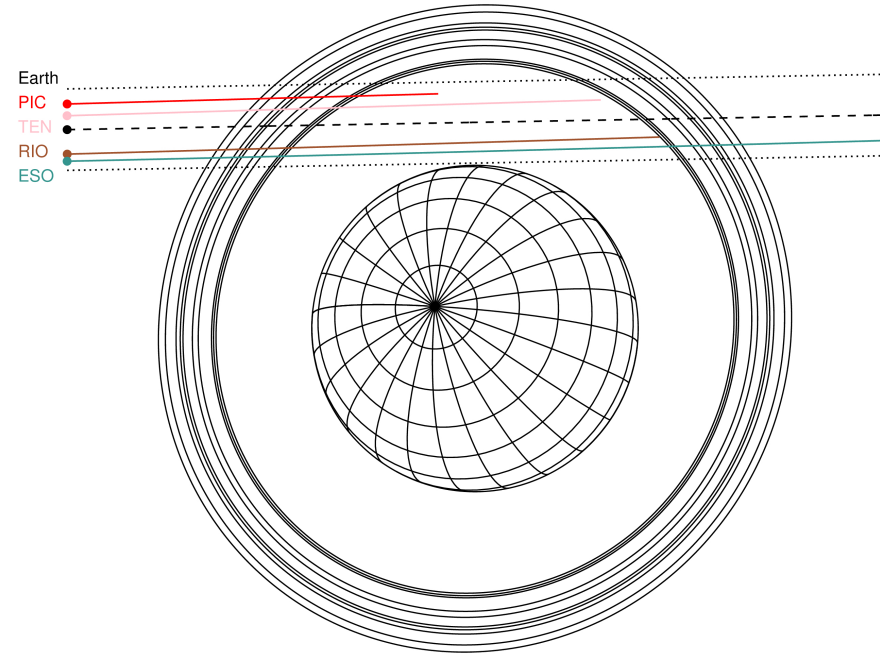
RUWE (>1.4 is poor) : 1.13
 K magnitude : 13.941
 G magnitude : 15.218
 RP magnitude : 14.772
 BP magnitude : 15.502
 DUPflag : 0
 Distance (au) : 19.168
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 14.03
 Sun-Target sep (deg) : 75.10
 Sun-Moon sep (deg) : 139.51
 B (ring opening deg) : 73.71
 PA of pole (deg) : 61.14

#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



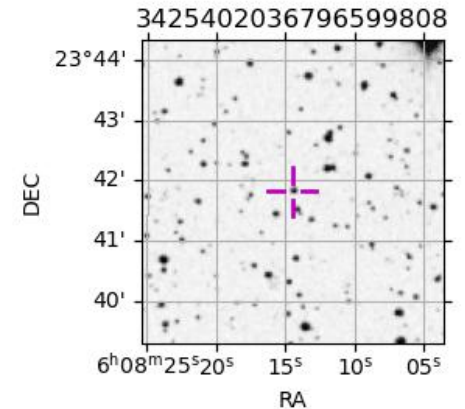
2034-04-07T00:13:09.8500 ex: 06 08 14.4814 s: +23 41 49.032 C/A 2.329° PA 181.02 deg v_sky +14.03 km/s D 19.17 AU
 Credit: Styled after SORA/Lucky Star

Uranus 2034-04-07T00:13:09 K13.94 G15.22 XRgt



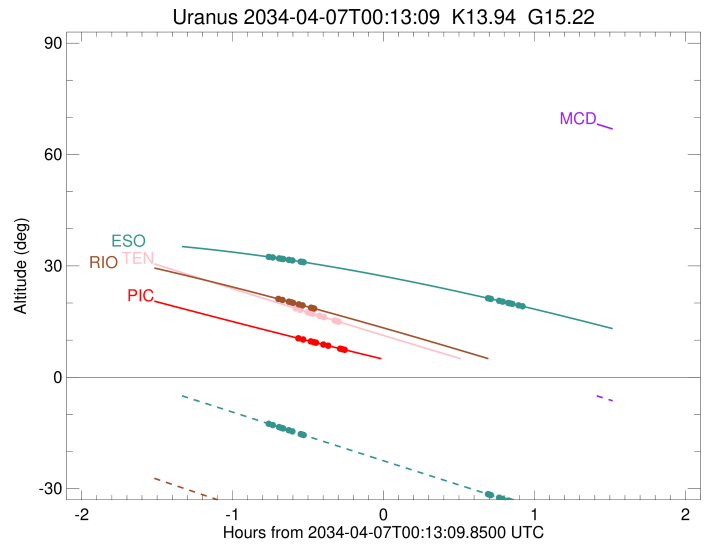
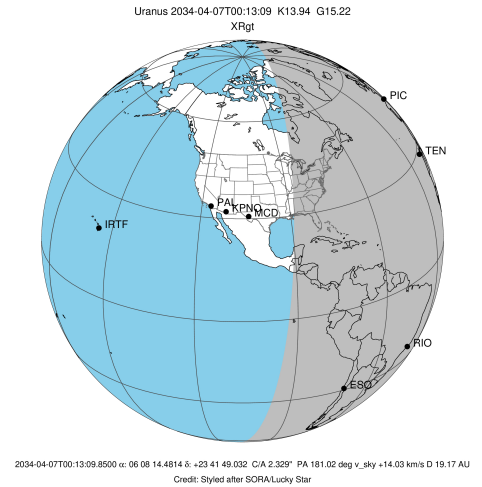
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1	+++++++			APR 06 23:39 - APR 06 23:57	PnnRin
PAL	Palomar Mt (200")	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs. Nanki	32.1	118.8					PnnRnn
KPNO	Kitt Peak Natl Obs	32.0	248.4					PnnRnn
MCD	McDonald Obs. 2.7m	30.7	256.0					PnnRnn
TEN	Teide Obs./Tenerife	28.3	343.5	+++++++			APR 06 23:38 - APR 06 23:55	PnnRin
IRTF	Mauna Kea/IRTF	19.8	204.5					PnnRnn
KAV	Kavalur Observatory	12.6	78.8					PnnRnn
RIO	Rio de Janeiro	-22.9	316.8	+++++++			APR 06 23:31 - APR 06 23:45	PnnRin
ESO	European Southern Obs	-29.3	289.3	+++++++		+++++++	APR 06 23:27 - APR 07 01:08	PnnRie
AAT	Siding Spring (AAT)	-31.3	149.1					PnnRnn
SAAO	So. Afr. Astro. Obs.	-32.4	20.8					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



3425402036796599808

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-07T00:17:57.190
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : PIC
 Location : Pic du Midi
 Latitude (deg) : 42.93656
 E. Longitude (deg) : 0.14231
 Altitude (km) : 2.890
 Gaia source ID : 3425402036796599808
 2Mass ID (if available) : 06081448+2341490
 ICRS Star Coord at Epoch: 06h 08m 14.48141s +23:41:49.03190s
 RUWE (>1.4 is poor) : 1.13
 K magnitude : 13.941
 G magnitude : 15.218
 RP magnitude : 14.772
 BP magnitude : 15.502
 DUPflag : 0
 Distance (au) : 19.168
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 14.03
 Sun-Target sep (deg) : 75.10
 Sun-Moon sep (deg) : 140.09
 B (ring opening deg) : 73.71
 PA of pole (deg) : 61.14
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.654
 C/A sky separation (km) : 36895.3
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 ura111.bsp
 IAU_URANUS_for_RINGFIT.tpc
 vgr2.ura111.bsp
 ura161.bsp
 vgr2.ura161.bsp
 peph.ura160.bsp
 earthstns_itr93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk

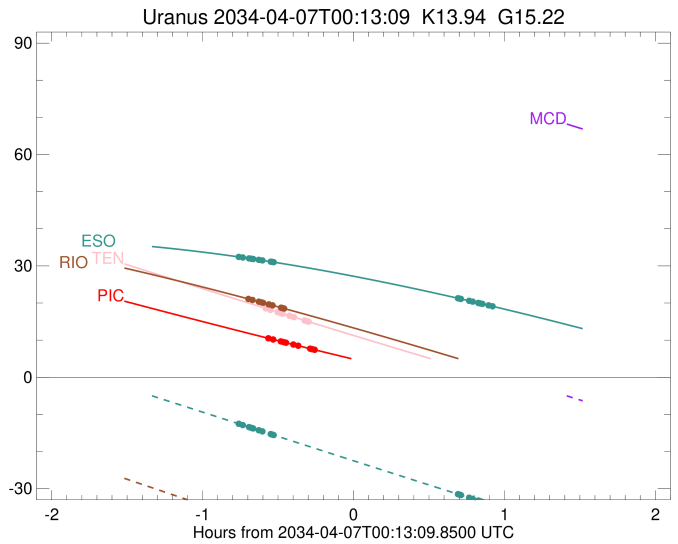
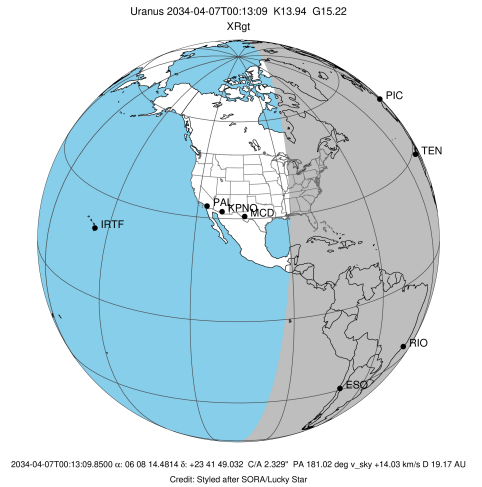


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-04-06T23:39:36.758		10.45	-40.23	50991.28	-9.97		
lambda	I	2034-04-06T23:41:15.388		10.17	-40.27	50026.71	-9.67		
delta	I	2034-04-06T23:44:18.108		9.65	-40.33	48300.35	-9.22		
gamma	I	2034-04-06T23:45:31.419		9.45	-40.35	47631.41	-9.03		
eta	I	2034-04-06T23:46:22.240		9.31	-40.36	47176.12	-8.89		
beta	I	2034-04-06T23:49:19.519		8.81	-40.41	45646.16	-8.37		
alpha	I	2034-04-06T23:51:15.351		8.48	-40.43	44696.10	-8.01		
4	I	2034-04-06T23:55:50.813		7.72	-40.47	42616.13	-7.03		
5	I	2034-04-06T23:56:54.680		7.54	-40.47	42185.28	-6.77		
6	I	2034-04-06T23:57:45.161		7.40	-40.47	41849.04	-6.60		

No planet occultations

6	E	2034-04-07T00:41:14.239		0.41x	-39.66	41877.25	6.64		
5	E	2034-04-07T00:41:55.539		0.31x	-39.63	42155.02	6.81		
4	E	2034-04-07T00:42:59.759		0.14x	-39.58	42600.31	7.08		
alpha	E	2034-04-07T00:47:41.021		-0.58x	-39.37	44733.23	8.07		
beta	E	2034-04-07T00:49:31.319		-0.86x	-39.29	45643.54	8.43		
eta	E	2034-04-07T00:52:27.434		-1.31x	-39.14	47176.12	8.96		
gamma	E	2034-04-07T00:53:17.544		-1.43x	-39.09	47628.72	9.10		
delta	E	2034-04-07T00:54:30.531		-1.62x	-39.03	48300.35	9.30		
lambda	E	2034-04-07T00:57:31.616		-2.07x	-38.86	50026.71	9.76		
epsilon	E	2034-04-07T01:00:01.386		-2.44x	-38.72	51514.39	10.07		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-07T00:19:16.840
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : TEN
 Location : Teide Obs./Tenerife
 Latitude (deg) : 28.30050
 E. Longitude (deg) : 343.48909
 Altitude (km) : 2.395
 Gaia source ID : 3425402036796599808
 2Mass ID (if available) : 06081448+2341490
 ICRS Star Coord at Epoch: 06h 08m 14.48141s +23:41:49.03190s
 RUWE (>1.4 is poor) : 1.13
 K magnitude : 13.941
 G magnitude : 15.218
 RP magnitude : 14.772
 BP magnitude : 15.502
 DUPflag : 0
 Distance (au) : 19.168
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 14.03
 Sun-Target sep (deg) : 75.10
 Sun-Moon sep (deg) : 140.26
 B (ring opening deg) : 73.71
 PA of pole (deg) : 61.14
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.532
 C/A sky separation (km) : 35195.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 ura111.bsp
 IAU_URANUS_for_RINGFIT.tpc
 vgr2.ura111.bsp
 ura161.bsp
 vgr2.ura161.bsp
 peph.ura160.bsp
 earthstns_itr93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk

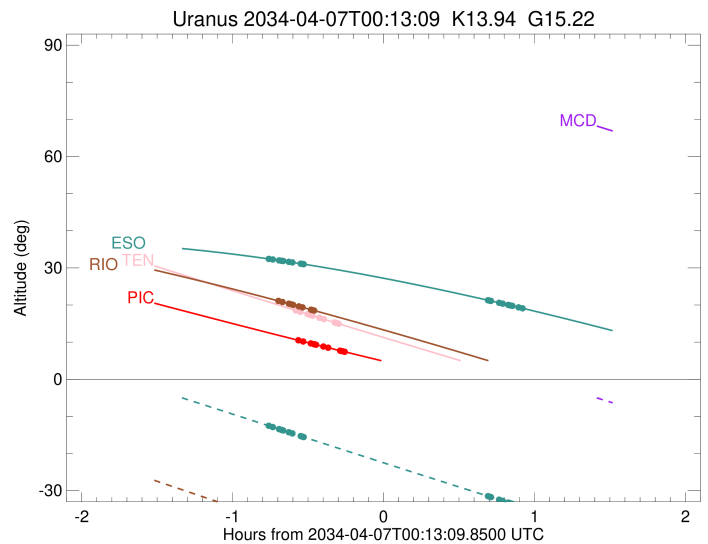
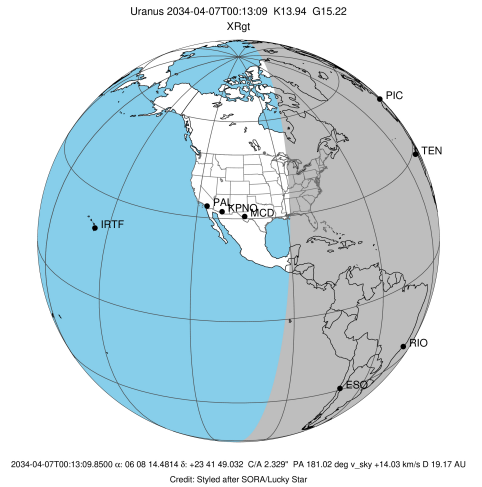


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-04-06T23:38:36.465		18.48	-48.95	50972.82	-10.38		
lambda	I	2034-04-06T23:40:09.115		18.15	-49.14	50026.71	-10.12		
delta	I	2034-04-06T23:43:02.951		17.54	-49.50	48300.35	-9.74		
gamma	I	2034-04-06T23:44:12.232		17.30	-49.64	47631.32	-9.57		
eta	I	2034-04-06T23:45:00.066		17.13	-49.73	47176.12	-9.46		
beta	I	2034-04-06T23:47:45.528		16.56	-50.06	45647.06	-9.02		
alpha	I	2034-04-06T23:49:32.729		16.18	-50.27	44694.41	-8.73		
4	I	2034-04-06T23:53:41.288		15.31	-50.74	42615.49	-7.94		
5	I	2034-04-06T23:54:36.767		15.12	-50.84	42190.70	-7.73		
6	I	2034-04-06T23:55:21.982		14.96	-50.92	41845.49	-7.60		

No planet occultations

6	E	2034-04-07T00:46:07.520		4.55x	-54.68	41878.28	7.66		
5	E	2034-04-07T00:46:43.412		4.43x	-54.70	42155.71	7.79		
4	E	2034-04-07T00:47:39.285		4.24x	-54.73	42597.62	8.01		
alpha	E	2034-04-07T00:51:53.233		3.39x	-54.86	44735.14	8.81		
beta	E	2034-04-07T00:53:34.666		3.05x	-54.90	45644.15	9.11		
eta	E	2034-04-07T00:56:18.663		2.51x	-54.96	47176.12	9.56		
gamma	E	2034-04-07T00:57:05.689		2.35x	-54.98	47628.46	9.68		
delta	E	2034-04-07T00:58:14.504		2.12x	-55.00	48300.35	9.85		
lambda	E	2034-04-07T01:01:06.327		1.56x	-55.04	50026.71	10.24		
epsilon	E	2034-04-07T01:03:30.213		1.08x	-55.06	51521.98	10.51		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-07T00:19:08.700
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : RIO
 Location : Rio de Janeiro
 Latitude (deg) : -22.89506
 E. Longitude (deg) : 316.77708
 Altitude (km) : 0.033
 Gaia source ID : 3425402036796599808
 2Mass ID (if available) : 06081448+2341490
 ICRS Star Coord at Epoch: 06h 08m 14.48141s +23:41:49.03190s
 RUWE (>1.4 is poor) : 1.13
 K magnitude : 13.941
 G magnitude : 15.218
 RP magnitude : 14.772
 BP magnitude : 15.502
 DUPflag : 0
 Distance (au) : 19.168
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 14.03
 Sun-Target sep (deg) : 75.10
 Sun-Moon sep (deg) : 140.17
 B (ring opening deg) : 73.71
 PA of pole (deg) : 61.14
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.094
 C/A sky separation (km) : 29112.1
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 ura111.bsp
 IAU_URANUS_for_RINGFIT.tpc
 vgr2.ura111.bsp
 ura161.bsp
 vgr2.ura161.bsp
 peph.ura160.bsp
 earthstns_itr93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk

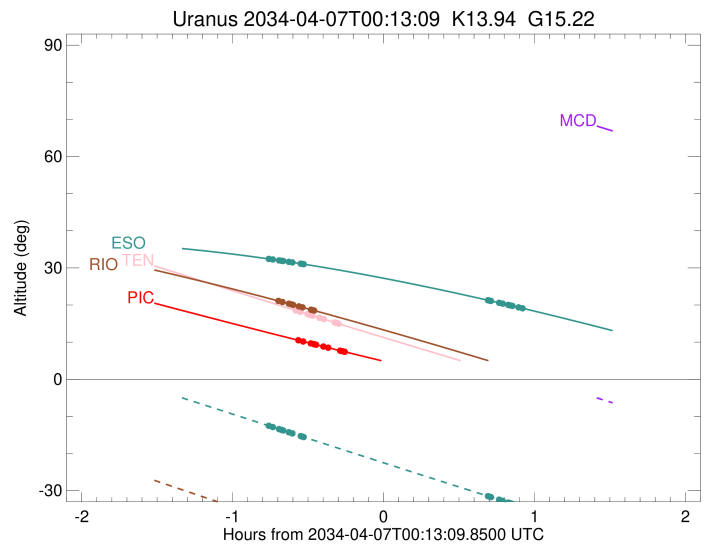
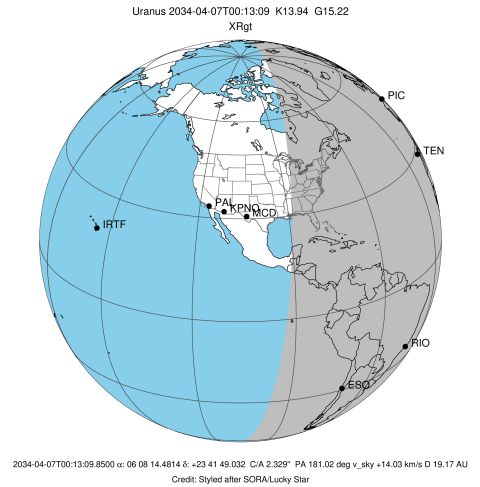


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-04-06T23:31:44.637		21.04	-38.60	50918.51	-11.63		
lambda	I	2034-04-06T23:33:02.000		20.81	-38.89	50026.71	-11.48		
delta	I	2034-04-06T23:35:33.866		20.35	-39.46	48300.35	-11.26		
gamma	I	2034-04-06T23:36:33.581		20.17	-39.69	47630.95	-11.16		
eta	I	2034-04-06T23:37:14.447		20.05	-39.85	47176.12	-11.10		
beta	I	2034-04-06T23:39:33.503		19.63	-40.37	45650.06	-10.85		
alpha	I	2034-04-06T23:41:02.568		19.36	-40.71	44690.13	-10.69		
4	I	2034-04-06T23:44:20.022		18.75	-41.45	42612.17	-10.28		
5	I	2034-04-06T23:45:00.456		18.63	-41.60	42207.20	-10.17		
6	I	2034-04-06T23:45:37.258		18.51	-41.74	41835.51	-10.11		

No planet occultations

6	E	2034-04-07T00:55:02.653		4.97x	-57.00	41879.73	10.21		
5	E	2034-04-07T00:55:30.042		4.88x	-57.09	42160.55	10.27		
4	E	2034-04-07T00:56:11.149		4.74x	-57.24	42588.70	10.39		
alpha	E	2034-04-07T00:59:33.979		4.05x	-57.94	44740.73	10.82		
beta	E	2034-04-07T01:00:57.186		3.76x	-58.23	45646.52	10.98		
eta	E	2034-04-07T01:03:14.811		3.29x	-58.71	47176.12	11.24		
gamma	E	2034-04-07T01:03:54.871		3.16x	-58.85	47627.58	11.30		
delta	E	2034-04-07T01:04:54.129		2.95x	-59.05	48300.35	11.40		
lambda	E	2034-04-07T01:07:23.998		2.44x	-59.56	50026.71	11.63		
epsilon	E	2034-04-07T01:09:33.277		1.99x	-60.00	51542.42	11.80		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-07T00:16:57.020
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : ESO
 Location : European Southern Obs. (3.6m)
 Latitude (deg) : -29.26097
 E. Longitude (deg) : 289.26831
 Altitude (km) : 2.400
 Gaia source ID : 3425402036796599808
 2Mass ID (if available) : 06081448+2341490
 ICRS Star Coord at Epoch: 06h 08m 14.48141s +23:41:49.03190s
 RUWE (>1.4 is poor) : 1.13
 K magnitude : 13.941
 G magnitude : 15.218
 RP magnitude : 14.772
 BP magnitude : 15.502
 DUPflag : 0
 Distance (au) : 19.168
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 14.03
 Sun-Target sep (deg) : 75.10
 Sun-Moon sep (deg) : 140.07
 B (ring opening deg) : 73.71
 PA of pole (deg) : 61.14
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 1.993
 C/A sky separation (km) : 27705.9
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 ura111.bsp
 IAU_URANUS_for_RINGFIT.tpc
 vgr2.ura111.bsp
 ura161.bsp
 vgr2.ura161.bsp
 peph.ura160.bsp
 earthstns_itr93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk



Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-04-06T23:27:55.261		32.39	-12.61	50908.81	-11.81		
lambda	I	2034-04-06T23:29:10.578		32.27	-12.89	50026.71	-11.67		
delta	I	2034-04-06T23:31:39.771		32.02	-13.43	48300.35	-11.47		
gamma	I	2034-04-06T23:32:38.332		31.92	-13.64	47630.87	-11.39		
eta	I	2034-04-06T23:33:18.354		31.86	-13.79	47176.12	-11.33		
beta	I	2034-04-06T23:35:34.242		31.63	-14.28	45650.67	-11.12		
alpha	I	2034-04-06T23:37:01.204		31.48	-14.60	44689.45	-10.98		
4	I	2034-04-06T23:40:12.914		31.14	-15.30	42611.33	-10.62		
5	I	2034-04-06T23:40:51.593		31.07	-15.44	42210.39	-10.52		
6	I	2034-04-06T23:41:27.603		31.00	-15.57	41833.70	-10.47		

No planet occultations

6	E	2034-04-07T00:54:44.907		21.28	-31.50	41879.73	10.55		
5	E	2034-04-07T00:55:11.572		21.21	-31.59	42162.12	10.60		
4	E	2034-04-07T00:55:51.048		21.11	-31.74	42586.64	10.71		
alpha	E	2034-04-07T00:59:08.833		20.59	-32.44	44741.86	11.07		
beta	E	2034-04-07T01:00:30.184		20.38	-32.73	45647.13	11.22		
eta	E	2034-04-07T01:02:45.123		20.03	-33.22	47176.12	11.44		
gamma	E	2034-04-07T01:03:24.481		19.92	-33.36	47627.37	11.50		
delta	E	2034-04-07T01:04:22.810		19.77	-33.56	48300.35	11.58		
lambda	E	2034-04-07T01:06:50.588		19.38	-34.09	50026.71	11.78		
epsilon	E	2034-04-07T01:08:58.669		19.03	-34.55	51545.89	11.93		