

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2035-05-07T22:51:20.130
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3382600419950442880
 2Mass ID (if available) : 06313515+2333457

ICRS Star Coord at Epoch: 06h 31m 35.15781s +23:33:45.60890s

RUWE (>1.4 is poor) : 1.13
 K magnitude : 13.782
 G magnitude : 15.528
 RP magnitude : 14.940
 BP magnitude : 15.941
 DUPflag : 0
 Distance (au) : 19.493
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 25.36
 Sun-Target sep (deg) : 50.50
 Sun-Moon sep (deg) : 49.07
 B (ring opening deg) : 68.88
 PA of pole (deg) : 70.34

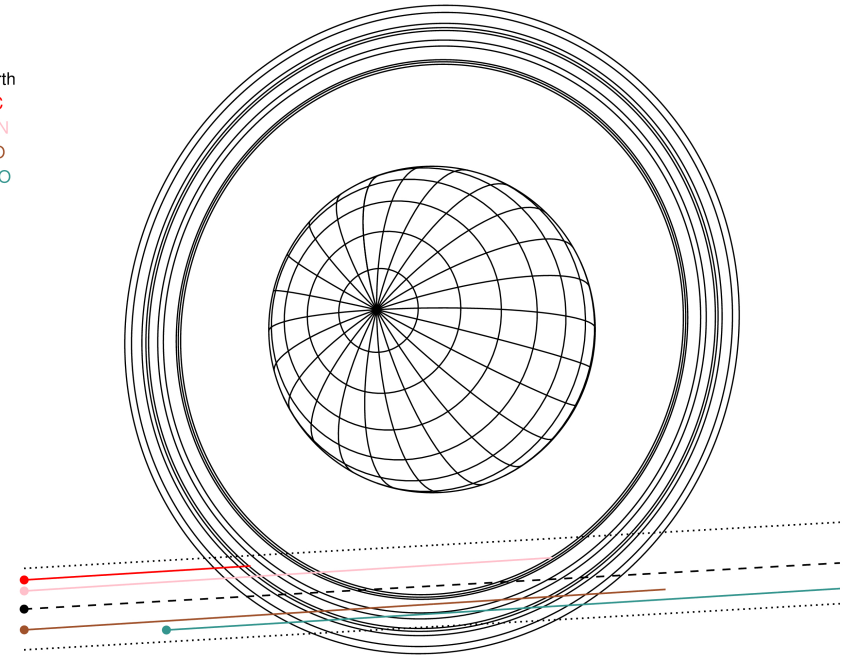
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2035-05-07T22:51:20.1300 α: 06 31 35.1578 δ: +23 33 45.6089 C/A 2.830° PA 3.24 deg v_sky +25.36 km/s D 19.49 AU
 Credit: Styled after SORA/Lucky Star

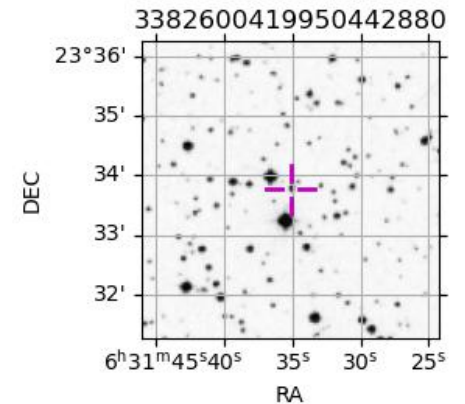
Uranus 2035-05-07T22:51:20 K13.78 G15.53 XRgt

Earth
 PIC
 TEN
 RIO
 ESO

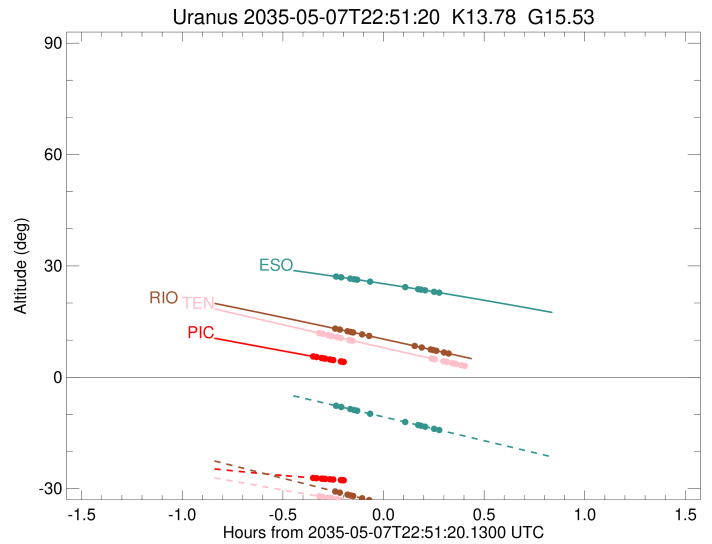
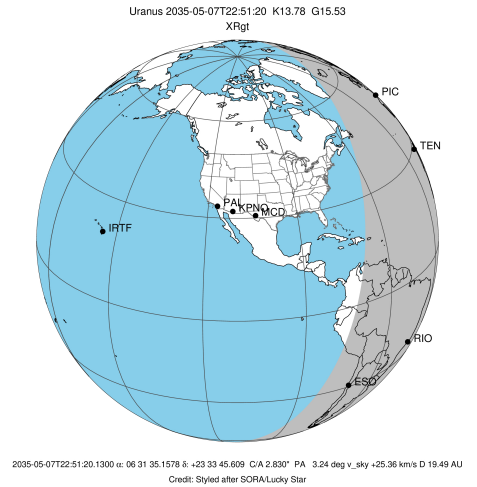


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1	+++++			MAY 07 22:30 - MAY 07 22:33	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	+++++	+		MAY 07 22:31 - MAY 07 23:05	PnnRie
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	+++++		+++++	MAY 07 22:36 - MAY 07 23:10	PnnRie
ESO	European Southern Obs	-29.3	289.3	+++++		+++++	MAY 07 22:36 - MAY 07 23:07	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



target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2035-05-07T22:54:07.740
 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 : 3382600419950442880
 2Mass ID (if available) : 06313515+2333457
 ICRS Star Coord at Epoch: 06h 31m 35.15781s +23:33:45.60890s
 RUWE (>1.4 is poor) : 1.13
 K magnitude : 13.782
 G magnitude : 15.528
 RP magnitude : 14.940
 BP magnitude : 15.941
 DUPflag : 0
 Distance (au) : 19.493
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 25.36
 Sun-Target sep (deg) : 50.50
 Sun-Moon sep (deg) : 49.58
 B (ring opening deg) : 68.88
 PA of pole (deg) : 70.34
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.492
 C/A sky separation (km) : 35230.2
 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_itrff93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk

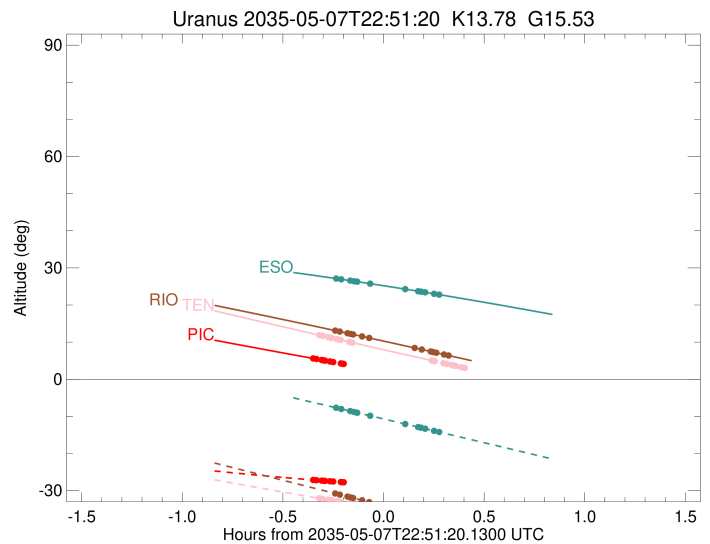
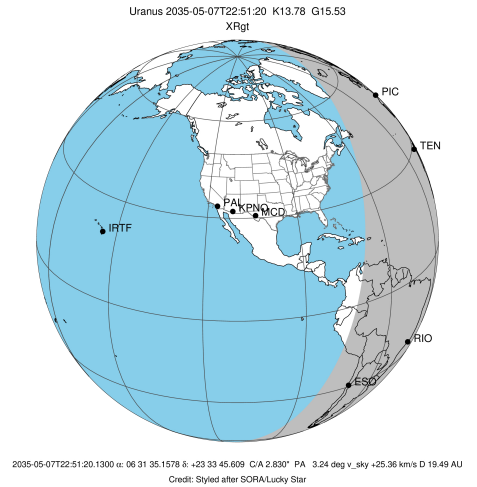


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2035-05-07T22:30:04.128		5.66	-27.10	51522.68	-19.46		
lambda	I	2035-05-07T22:31:21.833		5.45	-27.20	50026.71	-18.97		
delta	I	2035-05-07T22:32:54.550		5.19	-27.31	48300.35	-18.25		
gamma	I	2035-05-07T22:33:32.024		5.09	-27.35	47622.16	-17.94		
eta	I	2035-05-07T22:33:57.039		5.02	-27.38	47176.12	-17.72		
beta	I	2035-05-07T22:35:25.003		4.78x	-27.48	45652.11	-16.92		
alpha	I	2035-05-07T22:36:21.274		4.63x	-27.54	44715.53	-16.33		
4	I	2035-05-07T22:38:41.820		4.25x	-27.70	42526.01	-14.77		
5	I	2035-05-07T22:38:56.191		4.21x	-27.71	42313.19	-14.58		
6	I	2035-05-07T22:39:32.236		4.12x	-27.75	41794.76	-14.14		

No planet occultations

6	E	2035-05-07T23:06:31.121		-0.15x	-29.21	41818.86	14.17		
5	E	2035-05-07T23:07:00.859		-0.22x	-29.23	42251.33	14.61		
4	E	2035-05-07T23:07:22.163		-0.28x	-29.24	42550.64	14.80		
alpha	E	2035-05-07T23:09:38.473		-0.63x	-29.34	44685.20	16.36		
beta	E	2035-05-07T23:10:38.194		-0.78x	-29.38	45676.70	16.96		
eta	E	2035-05-07T23:12:04.467		-1.00x	-29.43	47176.12	17.77		
gamma	E	2035-05-07T23:12:29.435		-1.06x	-29.45	47622.43	17.98		
delta	E	2035-05-07T23:13:06.799		-1.16x	-29.47	48300.35	18.30		
lambda	E	2035-05-07T23:14:39.266		-1.39x	-29.53	50026.71	19.03		
epsilon	E	2035-05-07T23:15:28.686		-1.52x	-29.56	50975.94	19.52		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2035-05-07T22:55:03.000
 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 : 3382600419950442880
 2Mass ID (if available) : 06313515+2333457
 ICRS Star Coord at Epoch: 06h 31m 35.15781s +23:33:45.60890s
 RUWE (>1.4 is poor) : 1.13
 K magnitude : 13.782
 G magnitude : 15.528
 RP magnitude : 14.940
 BP magnitude : 15.941
 DUPflag : 0
 Distance (au) : 19.493
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 25.36
 Sun-Target sep (deg) : 50.50
 Sun-Moon sep (deg) : 49.77
 B (ring opening deg) : 68.88
 PA of pole (deg) : 70.34
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.607
 C/A sky separation (km) : 36852.7
 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_itrf93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk

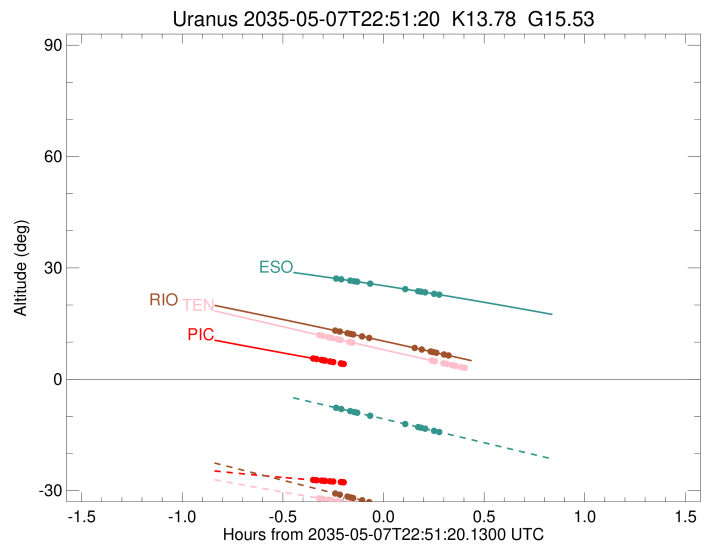
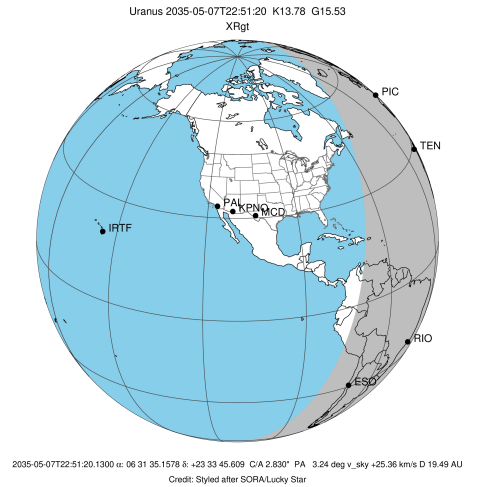


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2035-05-07T22:31:52.112		11.97	-32.01	51514.77	-18.52		
lambda	I	2035-05-07T22:33:13.519		11.68	-32.22	50026.71	-17.96		
delta	I	2035-05-07T22:34:51.858		11.35	-32.47	48300.35	-17.13		
gamma	I	2035-05-07T22:35:31.875		11.21	-32.57	47621.98	-16.77		
eta	I	2035-05-07T22:35:58.664		11.12	-32.63	47176.12	-16.52		
beta	I	2035-05-07T22:37:33.548		10.79	-32.87	45653.22	-15.57		
alpha	I	2035-05-07T22:38:35.212		10.58	-33.02	44713.34	-14.87		
4	I	2035-05-07T22:41:11.869		10.04	-33.40	42525.94	-12.99		
5	I	2035-05-07T22:41:28.425		9.98	-33.44	42311.54	-12.75		
6	I	2035-05-07T22:42:09.782		9.84	-33.54	41794.98	-12.20		

No planet occultations

6	E	2035-05-07T23:05:37.049		5.06	-36.76	41815.91	12.23		
5	E	2035-05-07T23:06:12.034		4.94x	-36.83	42257.17	12.78		
4	E	2035-05-07T23:06:35.601		4.86x	-36.88	42547.74	13.01		
alpha	E	2035-05-07T23:09:07.913		4.35x	-37.20	44685.65	14.91		
beta	E	2035-05-07T23:10:13.015		4.13x	-37.34	45675.94	15.61		
eta	E	2035-05-07T23:11:46.149		3.82x	-37.53	47176.12	16.56		
gamma	E	2035-05-07T23:12:12.876		3.73x	-37.59	47622.25	16.82		
delta	E	2035-05-07T23:12:52.757		3.60x	-37.67	48300.35	17.19		
lambda	E	2035-05-07T23:14:30.783		3.27x	-37.87	50026.71	18.02		
epsilon	E	2035-05-07T23:15:23.737		3.10x	-37.97	50992.24	18.58		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2035-05-07T22:55:13.040
 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 : 3382600419950442880
 2Mass ID (if available) : 06313515+2333457
 ICRS Star Coord at Epoch: 06h 31m 35.15781s +23:33:45.60890s
 RUWE (>1.4 is poor) : 1.13
 K magnitude : 13.782
 G magnitude : 15.528
 RP magnitude : 14.940
 BP magnitude : 15.941
 DUPflag : 0
 Distance (au) : 19.493
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 25.36
 Sun-Target sep (deg) : 50.50
 Sun-Moon sep (deg) : 49.75
 B (ring opening deg) : 68.88
 PA of pole (deg) : 70.34
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.037
 C/A sky separation (km) : 42931.2
 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_itrf93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk

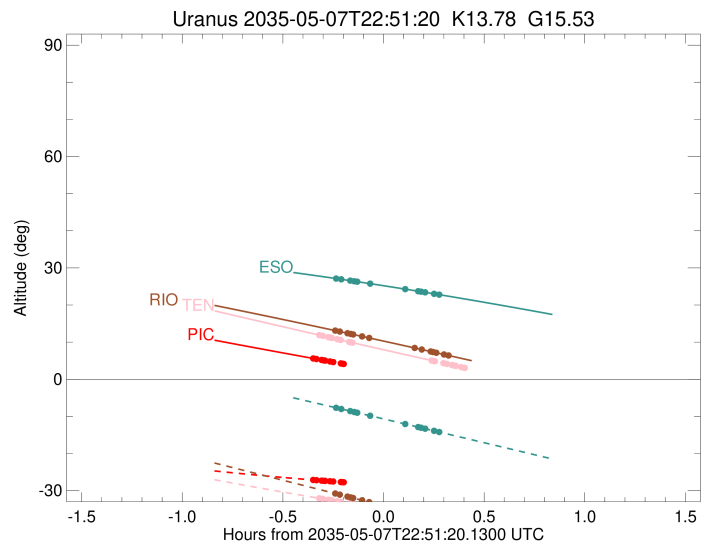
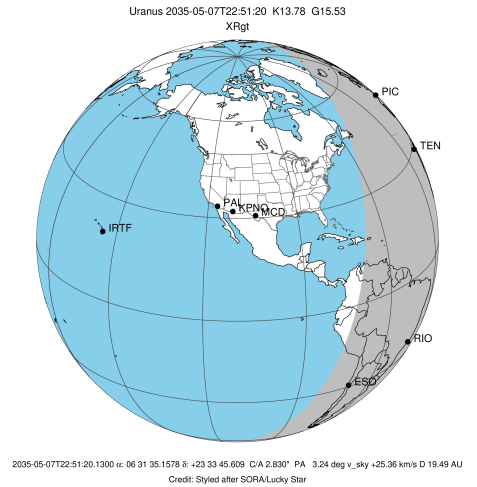


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2035-05-07T22:36:35.081		13.18	-30.69	51473.35	-14.26		
lambda	I	2035-05-07T22:38:19.607		12.84	-31.09	50026.71	-13.29		
delta	I	2035-05-07T22:40:37.385		12.39	-31.62	48300.35	-11.74		
gamma	I	2035-05-07T22:41:37.071		12.20	-31.84	47621.34	-11.01		
eta	I	2035-05-07T22:42:18.486		12.06	-32.00	47176.12	-10.49		
beta	I	2035-05-07T22:44:59.510		11.54	-32.62	45659.03	-8.33		
alpha	I	2035-05-07T22:47:09.168		11.11	-33.11	44702.37	-6.41		

No planet occultations

alpha	E	2035-05-07T23:00:30.509		8.46	-36.18	44690.35	6.41		
beta	E	2035-05-07T23:02:43.680		8.02	-36.69	45671.27	8.34		
eta	E	2035-05-07T23:05:22.936		7.48	-37.30	47176.12	10.51		
gamma	E	2035-05-07T23:06:04.288		7.34	-37.46	47621.52	11.03		
delta	E	2035-05-07T23:07:03.838		7.14	-37.69	48300.35	11.76		
lambda	E	2035-05-07T23:09:21.303		6.68	-38.21	50026.71	13.33		
epsilon	E	2035-05-07T23:10:37.137		6.43	-38.50	51067.89	14.30		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2035-05-07T22:54:00.310
 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 : 3382600419950442880
 2Mass ID (if available) : 06313515+2333457
 ICRS Star Coord at Epoch: 06h 31m 35.15781s +23:33:45.60890s
 RUWE (>1.4 is poor) : 1.13
 K magnitude : 13.782
 G magnitude : 15.528
 RP magnitude : 14.940
 BP magnitude : 15.941
 DUPflag : 0
 Distance (au) : 19.493
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 25.36
 Sun-Target sep (deg) : 50.50
 Sun-Moon sep (deg) : 49.74
 B (ring opening deg) : 68.88
 PA of pole (deg) : 70.34
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.143
 C/A sky separation (km) : 44438.9
 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	2035-05-07T22:36:49.732		27.18	-7.60	51459.01	-12.85		
lambda	I	2035-05-07T22:38:45.762		26.92	-8.01	50026.71	-11.70		
delta	I	2035-05-07T22:41:26.235		26.57	-8.58	48300.35	-9.78		
gamma	I	2035-05-07T22:42:39.173		26.40	-8.83	47621.20	-8.84		
eta	I	2035-05-07T22:43:31.605		26.28	-9.02	47176.12	-8.14		
beta	I	2035-05-07T22:47:24.696		25.75	-9.84	45661.70	-4.81		

No planet occultations

beta	E	2035-05-07T22:57:47.081		24.28	-12.05	45668.82	4.82		
eta	E	2035-05-07T23:01:38.467		23.72	-12.87	47176.12	8.15		
gamma	E	2035-05-07T23:02:30.858		23.60	-13.05	47621.33	8.85		
delta	E	2035-05-07T23:03:43.696		23.42	-13.31	48300.35	9.79		
lambda	E	2035-05-07T23:06:23.946		23.02	-13.88	50026.71	11.72		
epsilon	E	2035-05-07T23:07:51.186		22.80	-14.20	51091.84	12.87		