

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2035-11-23T02:03:00.650
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3368119263400098432
 2Mass ID (if available) : 07012756+2303571

ICRS Star Coord at Epoch: 07h 01m 27.56821s +23:03:56.89466s

RUWE (>1.4 is poor) : 1.04
 K magnitude : 14.362
 G magnitude : 16.268
 RP magnitude : 15.673
 BP magnitude : 16.708
 DUPflag : 0
 Distance (au) : 18.110
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -14.97
 Sun-Target sep (deg) : 135.98
 Sun-Moon sep (deg) : 56.89
 B (ring opening deg) : 62.40
 PA of pole (deg) : 78.44

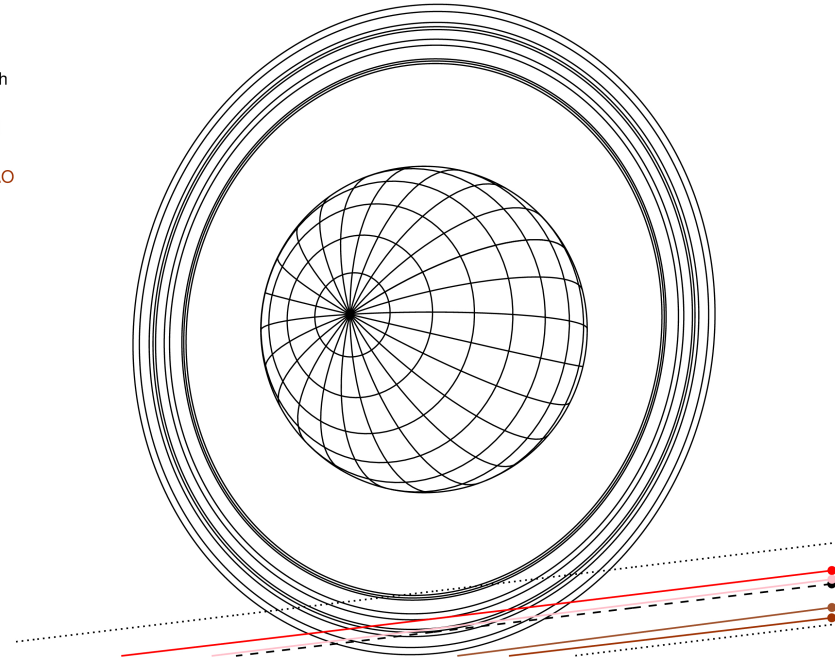
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2035-11-23T02:03:00.6500 a: 07 01 27.5682 s: +23 03 56.895 C/A 3.584" PA 6.89 deg v_sky -14.97 km/s D 18.11 AU
 Credit: Styled after SORA/Lucky Star

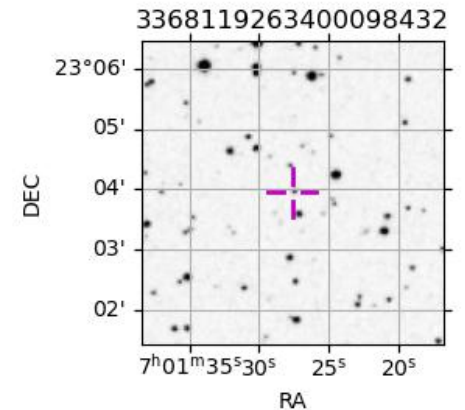
Uranus 2035-11-23T02:03:00 K14.36 G16.27 XRgt

Earth
 PIC
 TEN
 RIO
 SAAO

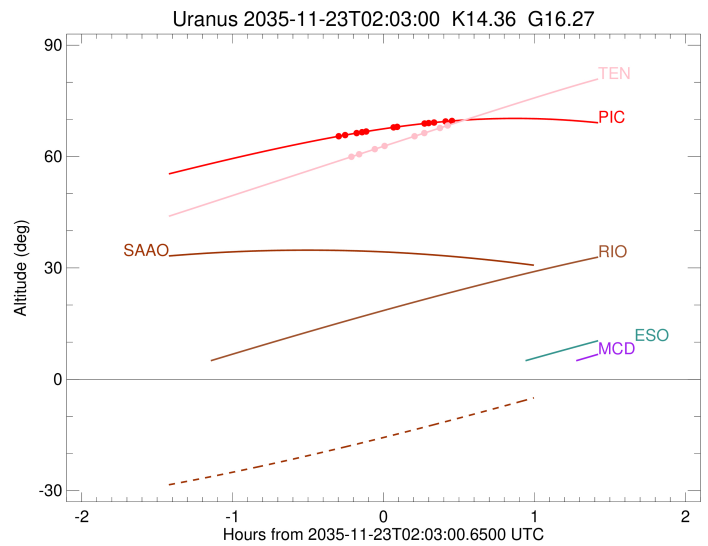
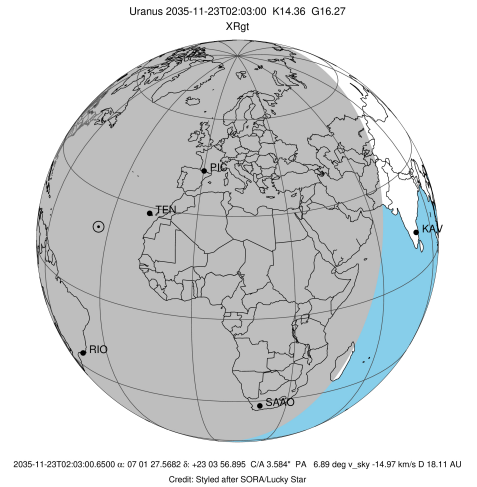


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1	+++++		+++++	NOV 23 01:46 - NOV 23 02:29	PnnRie
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	++++		++++	NOV 23 01:51 - NOV 23 02:27	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					PnnRnn
ESO	European Southern Obs	-29.3	289.3					PnnRnn
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 : 2035-11-23T02:04:29.510
 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 : 3368119263400098432
 2Mass ID (if available) : 07012756+2303571
 ICRS Star Coord at Epoch: 07h 01m 27.56821s +23:03:56.89466s
 RUWE (>1.4 is poor) : 1.04
 K magnitude : 14.362
 G magnitude : 16.268
 RP magnitude : 15.673
 BP magnitude : 16.708
 DUPflag : 0
 Distance (au) : 18.110
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -14.97
 Sun-Target sep (deg) : 135.98
 Sun-Moon sep (deg) : 57.74
 B (ring opening deg) : 62.40
 PA of pole (deg) : 78.44
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.438
 C/A sky separation (km) : 45163.8
 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



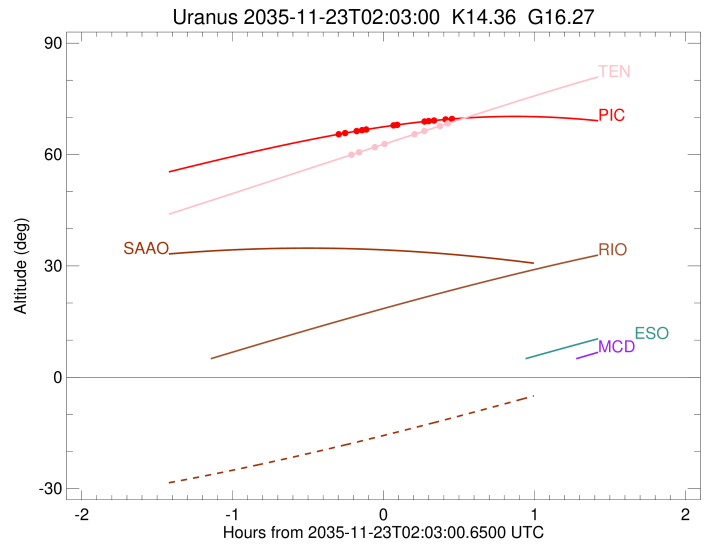
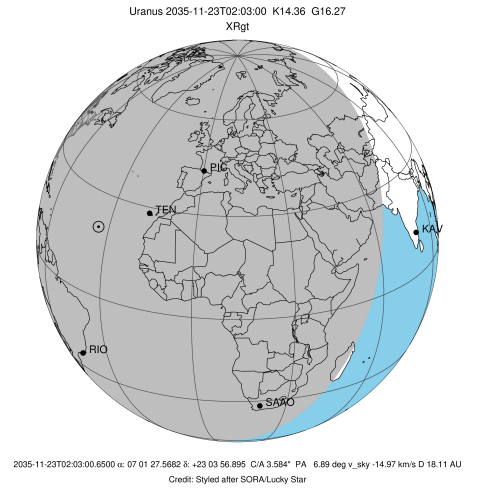
b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2035-11-23T01:46:08.055		65.58	-56.19	50744.43	-7.43		
lambda	I	2035-11-23T01:47:47.709		65.78	-55.94	50026.71	-6.96		
delta	I	2035-11-23T01:52:22.961		66.32	-55.21	48300.35	-5.55		
gamma	I	2035-11-23T01:54:33.528		66.57	-54.87	47621.68	-4.83		
eta	I	2035-11-23T01:56:11.275		66.75	-54.61	47176.12	-4.28		
beta	I	2035-11-23T02:08:57.073		68.04	-52.53	45673.74	-0.21		

No planet occultations

beta	E	2035-11-23T02:06:51.618		67.84	-52.87	45675.36	0.27		
eta	E	2035-11-23T02:19:16.062		68.89	-50.80	47176.12	4.28		
gamma	E	2035-11-23T02:20:53.574		69.01	-50.52	47620.96	4.84		
delta	E	2035-11-23T02:23:04.155		69.16	-50.15	48300.35	5.56		
lambda	E	2035-11-23T02:27:39.059		69.44	-49.37	50026.71	6.97		
epsilon	E	2035-11-23T02:29:36.280		69.55	-49.03	50877.11	7.44		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2035-11-23T02:06:01.570
 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 : 3368119263400098432
 2Mass ID (if available) : 07012756+2303571
 ICRS Star Coord at Epoch: 07h 01m 27.56821s +23:03:56.89466s
 RUWE (>1.4 is poor) : 1.04
 K magnitude : 14.362
 G magnitude : 16.268
 RP magnitude : 15.673
 BP magnitude : 16.708
 DUPflag : 0
 Distance (au) : 18.110
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -14.97
 Sun-Target sep (deg) : 135.98
 Sun-Moon sep (deg) : 57.85
 B (ring opening deg) : 62.40
 PA of pole (deg) : 78.44
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.557
 C/A sky separation (km) : 46714.5
 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_itrfr93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk



b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b? alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2035-11-23T01:51:20.984	60.18	-74.40	50743.53	-6.23		
lambda	I	2035-11-23T01:53:21.899	60.62	-74.00	50026.71	-5.62		
delta	I	2035-11-23T01:59:36.834	62.00	-72.75	48300.35	-3.55		
gamma	I	2035-11-23T02:03:34.736	62.88	-71.94	47621.31	-2.14		

No planet occultations

gamma	E	2035-11-23T02:15:12.746	65.44	-69.53	47620.99	2.15		
delta	E	2035-11-23T02:19:10.537	66.31	-68.70	48300.35	3.56		
lambda	E	2035-11-23T02:25:24.796	67.68	-67.38	50026.71	5.63		
epsilon	E	2035-11-23T02:27:42.984	68.18	-66.89	50854.04	6.25		