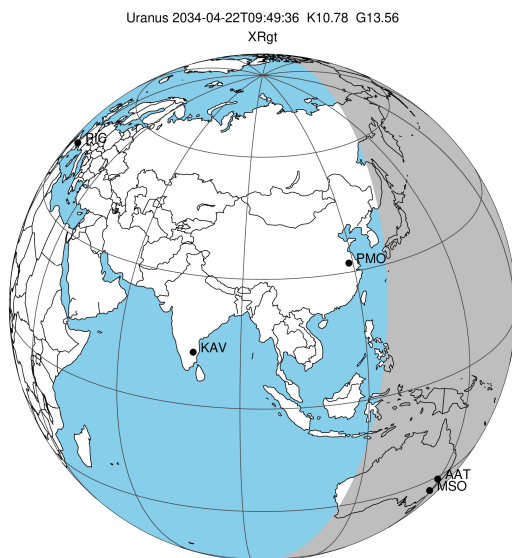


target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-22T09:49:36.490
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3425433613396587648
 2Mass ID (if available) : 06101638+2341192

ICRS Star Coord at Epoch: 06h 10m 16.39249s +23:41:19.10654s

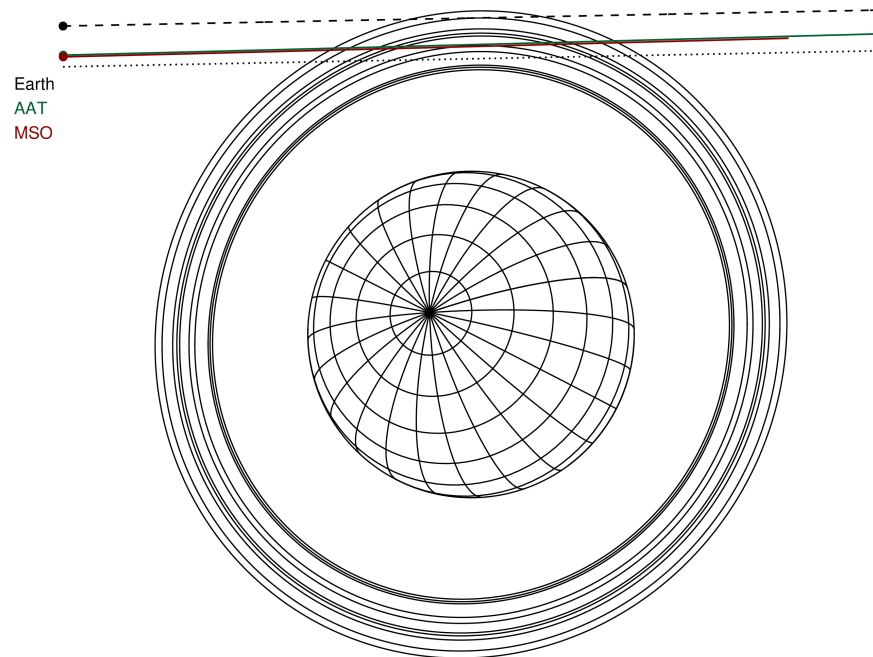
RUWE (>1.4 is poor) : 1.18
 K magnitude : 10.775
 G magnitude : 13.555
 RP magnitude : 12.703
 BP magnitude : 14.301
 DUPflag : 0
 Distance (au) : 19.408
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 21.07
 Sun-Target sep (deg) : 60.48
 Sun-Moon sep (deg) : 11.32
 B (ring opening deg) : 73.30
 PA of pole (deg) : 62.12

#	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



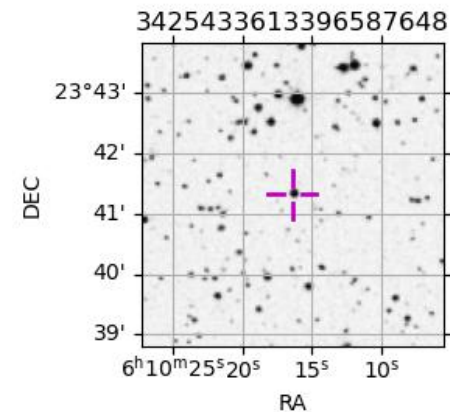
2034-04-22T09:49:36.4900 ex: 06 10 16.3925 s: +23 41 19.107 C/A 3.527" PA 181.12 deg v_sky +21.07 km/s D 19.41 AU
 Credit: Styled after SORA/Lucky Star

Uranus 2034-04-22T09:49:36 K10.78 G13.56 XRgt

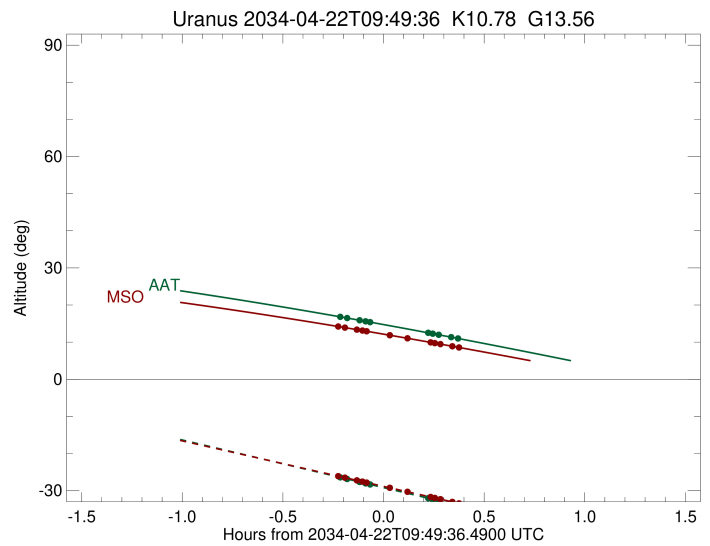
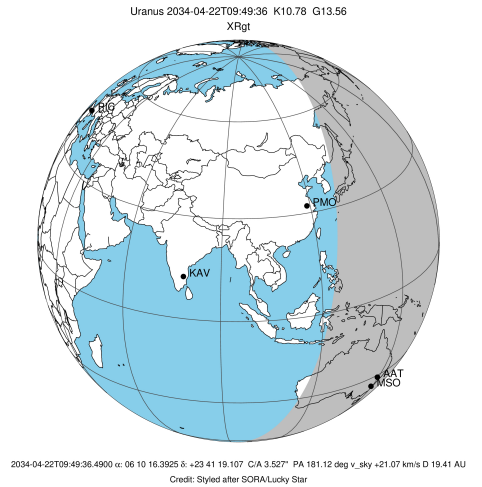


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1					PnnRnn
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					PnnRnn
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	+++++		+++++	APR 22 09:36 - APR 22 10:12	PnnRie
SAAO	So. Afr. Astro. Obs.	-32.4	20.8					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0	+++++		+++++	APR 22 09:35 - APR 22 10:12	PnnRie



target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-22T09:52:58.640
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : AAT
 Location : Siding Spring (AAT)
 Latitude (deg) : -31.27703
 E. Longitude (deg) : 149.06608
 Altitude (km) : 1.164
 Gaia source ID : 3425433613396587648
 2Mass ID (if available) : 06101638+2341192
 ICRS Star Coord at Epoch: 06h 10m 16.39249s +23:41:19.10654s
 RUWE (>1.4 is poor) : 1.18
 K magnitude : 10.775
 G magnitude : 13.555
 RP magnitude : 12.703
 BP magnitude : 14.301
 DUPflag : 0
 Distance (au) : 19.408
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 21.07
 Sun-Target sep (deg) : 60.48
 Sun-Moon sep (deg) : 11.70
 B (ring opening deg) : 73.30
 PA of pole (deg) : 62.12
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.223
 C/A sky separation (km) : 45372.3
 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_itrf93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk



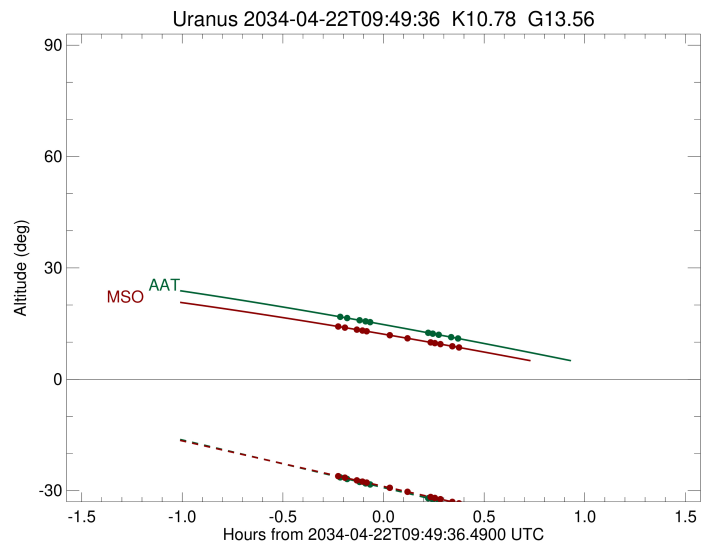
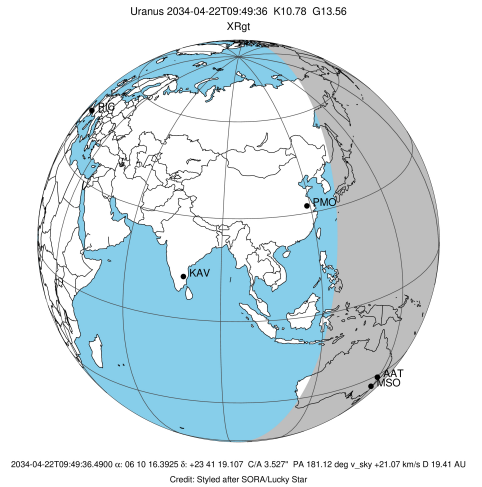
b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-04-22T09:36:33.303		16.84	-26.40	51253.02	-9.77		
lambda	I	2034-04-22T09:38:47.699		16.49	-26.88	50026.71	-8.61		
delta	I	2034-04-22T09:42:31.555		15.89	-27.68	48300.35	-6.78		
gamma	I	2034-04-22T09:44:17.676		15.60	-28.05	47630.59	-5.84		
eta	I	2034-04-22T09:45:40.907		15.38	-28.35	47176.12	-5.08		

No planet occultations

eta	E	2034-04-22T10:02:52.788		12.52	-32.03	47176.12	5.09		
gamma	E	2034-04-22T10:04:15.508		12.29	-32.32	47628.35	5.85		
delta	E	2034-04-22T10:06:01.822		11.99	-32.70	48300.35	6.79		
lambda	E	2034-04-22T10:09:45.175		11.35	-33.49	50026.71	8.64		
epsilon	E	2034-04-22T10:12:27.384		10.88	-34.07	51527.86	9.80		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-22T09:52:49.920
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : MSO
 Location : Mt. Stromlo Observatory
 Latitude (deg) : -35.32000
 E. Longitude (deg) : 149.00833
 Altitude (km) : 0.770
 Gaia source ID : 3425433613396587648
 2Mass ID (if available) : 06101638+2341192
 ICRS Star Coord at Epoch: 06h 10m 16.39249s +23:41:19.10654s
 RUWE (>1.4 is poor) : 1.18
 K magnitude : 10.775
 G magnitude : 13.555
 RP magnitude : 12.703
 BP magnitude : 14.301
 DUPflag : 0
 Distance (au) : 19.408
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 21.07
 Sun-Target sep (deg) : 60.48
 Sun-Moon sep (deg) : 11.65
 B (ring opening deg) : 73.30
 PA of pole (deg) : 62.12
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.203
 C/A sky separation (km) : 45078.8
 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_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	2034-04-22T09:35:57.859		14.23	-26.07	51248.16	-10.02		
lambda	I	2034-04-22T09:38:07.895		13.91	-26.51	50026.71	-8.91		
delta	I	2034-04-22T09:41:42.309		13.37	-27.24	48300.35	-7.17		
gamma	I	2034-04-22T09:43:21.729		13.12	-27.58	47630.66	-6.30		
eta	I	2034-04-22T09:44:38.045		12.92	-27.84	47176.12	-5.61		
beta	I	2034-04-22T09:51:53.184		11.80	-29.32	45642.45	-1.37		

No planet occultations

beta	E	2034-04-22T09:56:23.089		11.09	-30.23	45643.54	1.38		
eta	E	2034-04-22T10:03:36.989		9.94	-31.70	47176.12	5.62		
gamma	E	2034-04-22T10:04:52.799		9.74	-31.96	47628.24	6.31		
delta	E	2034-04-22T10:06:32.419		9.47	-32.30	48300.35	7.18		
lambda	E	2034-04-22T10:10:06.349		8.89	-33.02	50026.71	8.93		
epsilon	E	2034-04-22T10:12:44.195		8.46	-33.55	51529.72	10.05		