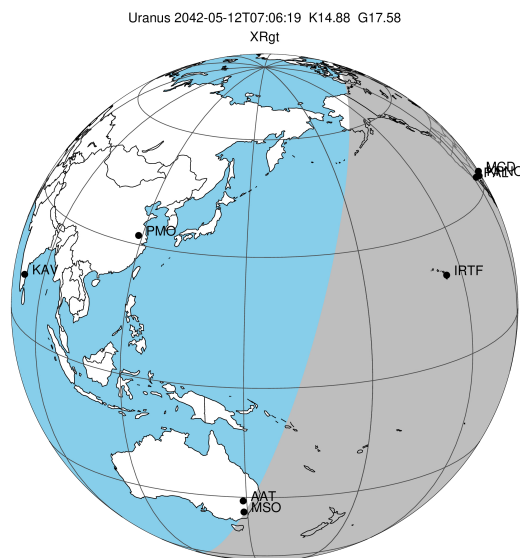


target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2042-05-12T07:06:19.060
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 660957984676505600
 2Mass ID (if available) : 08434580+1848040

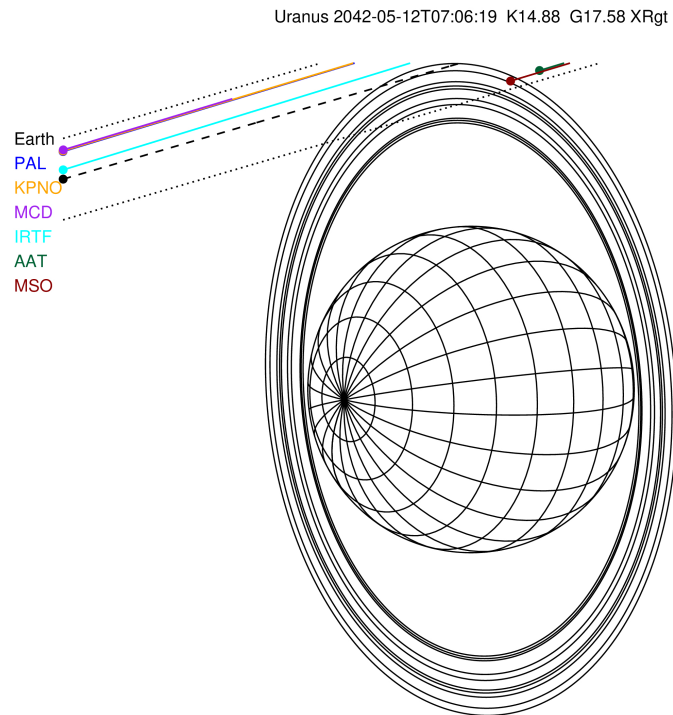
ICRS Star Coord at Epoch: 08h 43m 45.81771s +18:48:03.73625s

RUWE (>1.4 is poor) : 1.06
 K magnitude : 14.879
 G magnitude : 17.577
 RP magnitude : 16.748
 BP magnitude : 18.305
 DUPflag : 0
 Distance (au) : 18.669
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 13.17
 Sun-Target sep (deg) : 77.22
 Sun-Moon sep (deg) : 172.41
 B (ring opening deg) : 38.77
 PA of pole (deg) : 94.66

#	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



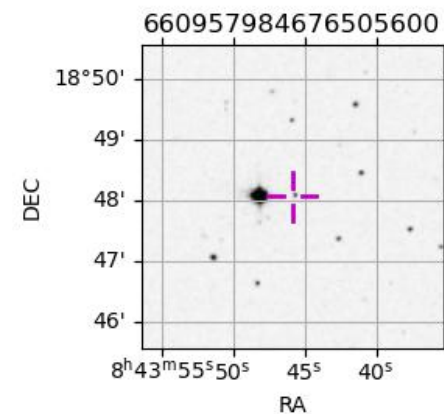
2042-05-12T07:06:19.0600 ex: 08 43 45.8177 r: +18 48 03.736 C/A 3.672° PA 196.29 deg v_sky +13.17 km/s D 18.67 AU
 Credit: Styled after SORA/Lucky Star



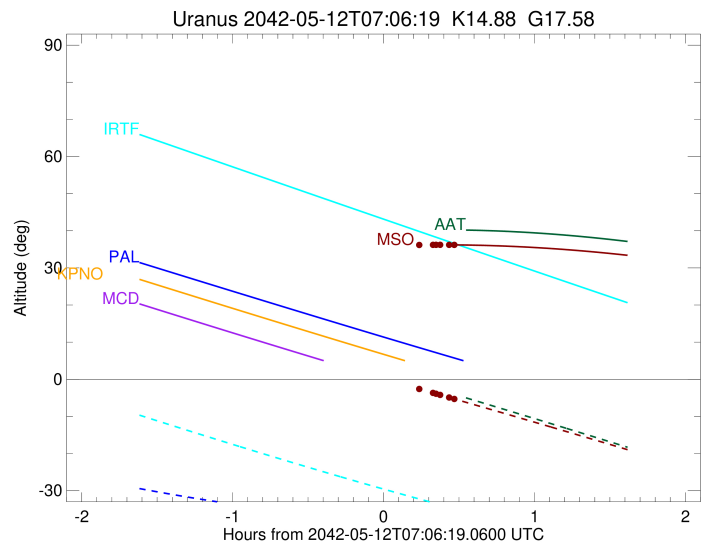
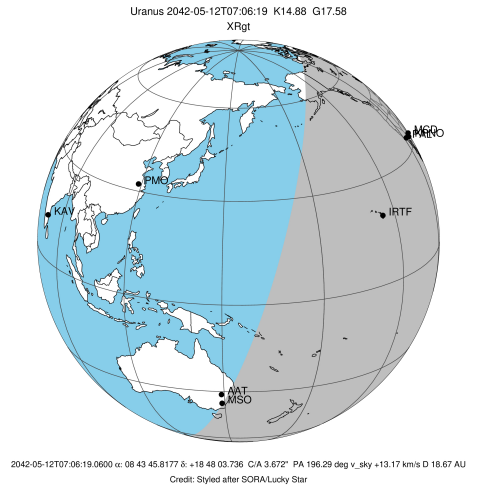
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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					PnnRnn
SAAO	So. Afr. Astro. Obs.	-32.4	20.8					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRne

+ MAY 12 07:35 - MAY 12 07:35



target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2042-05-12T07:07:07.690
 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 : 660957984676505600
 2Mass ID (if available) : 08434580+1848040
 ICRS Star Coord at Epoch: 08h 43m 45.81771s +18:48:03.73625s
 RUWE (>1.4 is poor) : 1.06
 K magnitude : 14.879
 G magnitude : 17.577
 RP magnitude : 16.748
 BP magnitude : 18.305
 DUPflag : 0
 Distance (au) : 18.669
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 13.17
 Sun-Target sep (deg) : 77.22
 Sun-Moon sep (deg) : 172.78
 B (ring opening deg) : 38.77
 PA of pole (deg) : 94.66
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.284
 C/A sky separation (km) : 44472.4
 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	2042-05-12T06:53:56.587		35.56	2.41x	51512.93	-9.82		
lambda	I	2042-05-12T06:56:37.139		35.66	1.91x	50026.71	-8.74		
delta	I	2042-05-12T07:00:12.908		35.77	1.23x	48300.35	-7.23		
gamma	I	2042-05-12T07:01:51.716		35.82	0.93x	47621.94	-6.49		
eta	I	2042-05-12T07:03:03.452		35.86	0.70x	47176.12	-5.93		
beta	I	2042-05-12T07:08:30.104		35.99	-0.33x	45674.02	-3.21		

No planet occultations

beta	E	2042-05-12T07:20:28.974		36.17	-2.61x	45668.53	3.21		
eta	E	2042-05-12T07:25:57.360		36.21	-3.66x	47176.12	5.94		
gamma	E	2042-05-12T07:27:08.905		36.21	-3.89x	47620.96	6.50		
delta	E	2042-05-12T07:28:47.800		36.21	-4.21x	48300.35	7.24		
lambda	E	2042-05-12T07:32:23.404		36.21	-4.90x	50026.71	8.75		
epsilon	E	2042-05-12T07:35:01.893		36.20	-5.42	51494.23	9.83		