

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2031-03-31T12:22:43.630
 Event type : XRT
 : No Uranus occs
 : Ring occs: topocentric, not geocentric
 Gaia source ID : 3415723787555438208
 2Mass ID (if available) : 05114277+2304334

ICRS Star Coord at Epoch: 05h 11m 42.77839s +23:04:33.33582s

RUWE (>1.4 is poor) : 0.97
 K magnitude : 14.731
 G magnitude : 17.001
 RP magnitude : 16.211
 BP magnitude : 17.514
 DUPflag : 0
 Distance (au) : 19.474
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 17.14
 Sun-Target sep (deg) : 68.74
 Sun-Moon sep (deg) : 26.87
 B (ring opening deg) : 82.08
 PA of pole (deg) : 4.33

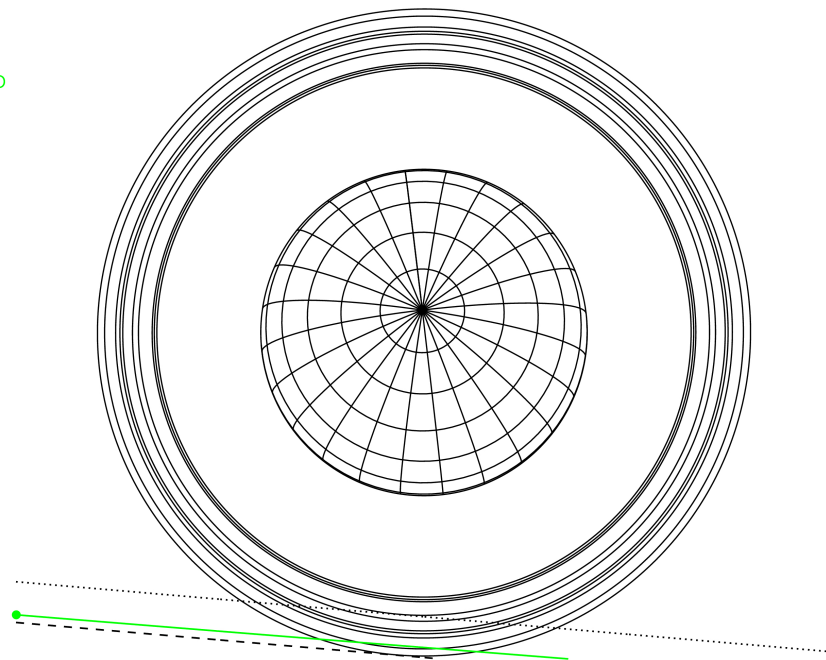
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2031-03-31T12:22:43.6300 ex: 05 11 42.7784 d: +23 04 33.336 C/A 3.585° PA 355.09 deg v_sky +17.14 km/s D 19.47 AU
 Credit: Styled after SORA/Lucky Star

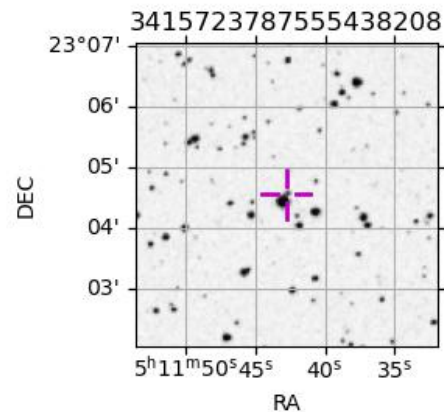
Uranus 2031-03-31T12:22:43 K14.73 G17.00 XRT

PMO

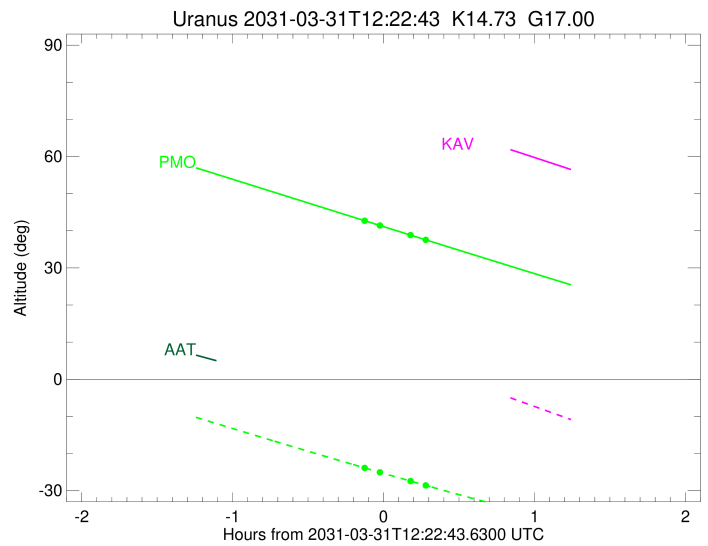
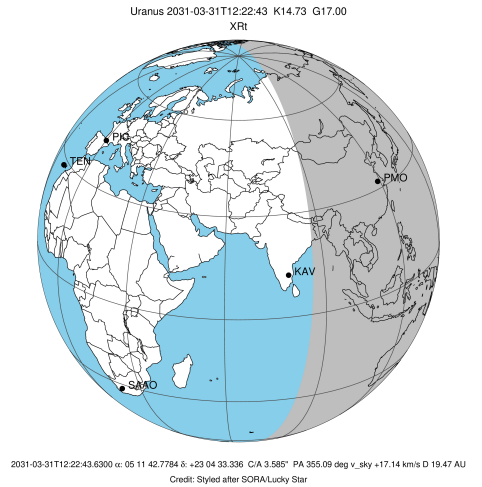


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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	++		++	MAR 31 12:14 - MAR 31 12:40	PnnRie
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					PnnRnn



target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2031-03-31T12:27:32.270
 Event type : XRt
 : No Uranus occs
 : Ring occs: topocentric, not geocentric
 Observer code : PMO
 Location : Purple Mtn Obs. Nanking
 Latitude (deg) : 32.06667
 E. Longitude (deg) : 118.82089
 Altitude (km) : 0.364
 Gaia source ID : 3415723787555438208
 2Mass ID (if available) : 05114277+2304334
 ICRS Star Coord at Epoch: 05h 11m 42.77839s +23:04:33.33582s
 RUWE (>1.4 is poor) : 0.97
 K magnitude : 14.731
 G magnitude : 17.001
 RP magnitude : 16.211
 BP magnitude : 17.514
 DUPflag : 0
 Distance (au) : 19.475
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 17.14
 Sun-Target sep (deg) : 68.74
 Sun-Moon sep (deg) : 26.59
 B (ring opening deg) : 82.08
 PA of pole (deg) : 4.33
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.482
 C/A sky separation (km) : 49180.8
 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	2031-03-31T12:14:33.344		42.85	-23.74	51334.46	-4.39		
lambda	I	2031-03-31T12:21:25.151		41.40	-25.09	50026.71	-2.04		

No planet occultations

lambda	E	2031-03-31T12:33:21.993		38.86	-27.41	50026.71	2.05		
epsilon	E	2031-03-31T12:40:48.714		37.29	-28.83	51491.01	4.40		