

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2030-10-31T22:46:29.380
 Event type : XRT
 : No Uranus occs
 : Ring occs: topocentric, not geocentric
 Gaia source ID : 3416310514448153728
 2Mass ID (if available) : 05250413+2316499

ICRS Star Coord at Epoch: 05h 25m 04.14219s +23:16:49.81645s

RUWE (>1.4 is poor) : 0.98
 K magnitude : 14.074
 G magnitude : 17.047
 RP magnitude : 16.112
 BP magnitude : 17.932
 DUPflag : 0
 Distance (au) : 18.435
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -15.15
 Sun-Target sep (deg) : 136.15
 Sun-Moon sep (deg) : 153.73
 B (ring opening deg) : 81.08
 PA of pole (deg) : 25.42

a(km) ring

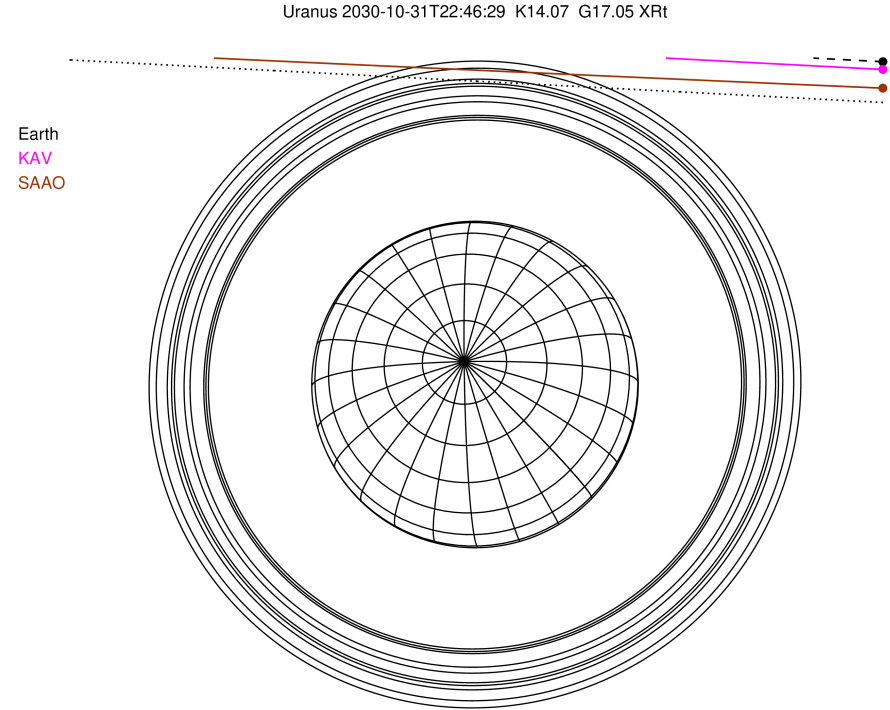
- 1 41837.2 6
- 2 42235.0 5
- 3 42571.2 4
- 4 44718.5 alpha
- 5 45661.1 beta
- 6 47176.1 eta
- 7 47626.3 gamma
- 8 48300.3 delta
- 9 50026.7 lambda
- 10 51149.4 epsilon

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

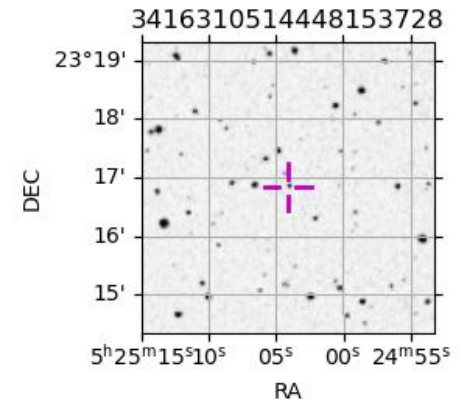
Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1					PnnRnn
PAL	Palomar Mt (200")	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs. Nanki	32.1	118.8					PnnRnn
KPNO	Kitt Peak Natl Obs	32.0	248.4					PnnRnn
MCD	McDonald Obs. 2.7m	30.7	256.0					PnnRnn
TEN	Teide 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	++		++	OCT 31 22:35 - OCT 31 23:05	PnnRie
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



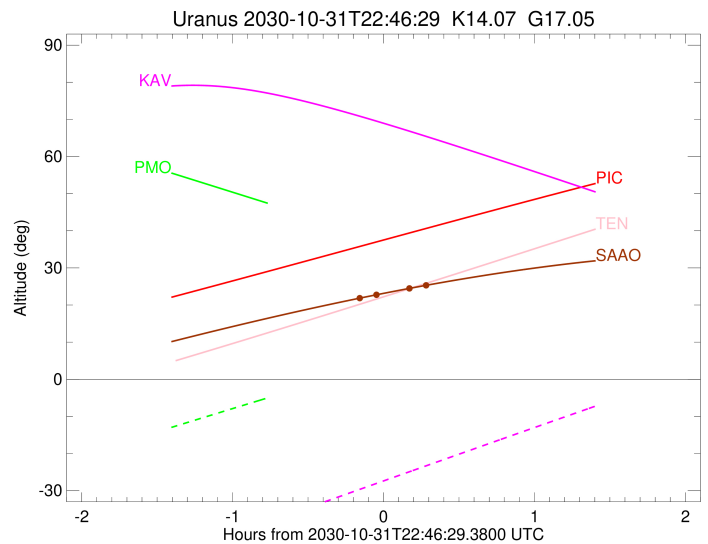
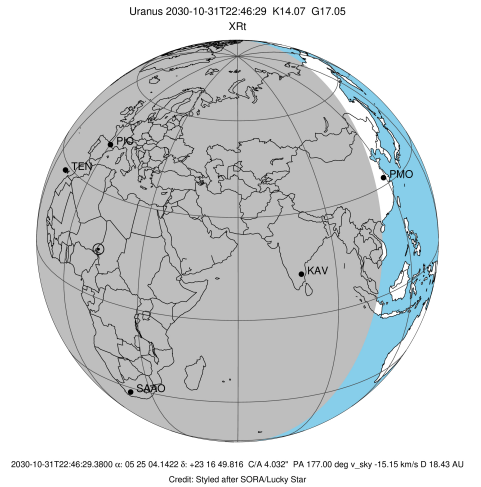
2030-10-31T22:46:29.3800 ra: 05 25 04.1422 s: +23 16 49.816 C/A 4.032" PA 177.00 deg v_sky -15.15 km/s D 18.43 AU
 Credit: Styled after SORA/Lucky Star



Earth
 KAV
 SAAO



target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2030-10-31T22:50:46.730
 Event type : XRt
 : No Uranus occs
 : Ring occs: topocentric, not geocentric
 Observer code : SAAO
 Location : So. Afr. Astro. Obs. (Sutherland)
 Latitude (deg) : -32.37953
 E. Longitude (deg) : 20.81070
 Altitude (km) : 1.768
 Gaia source ID : 3416310514448153728
 2Mass ID (if available) : 05250413+2316499
 ICRS Star Coord at Epoch: 05h 25m 04.14219s +23:16:49.81645s
 RUWE (>1.4 is poor) : 0.98
 K magnitude : 14.074
 G magnitude : 17.047
 RP magnitude : 16.112
 BP magnitude : 17.932
 DUPflag : 0
 Distance (au) : 18.435
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -15.15
 Sun-Target sep (deg) : 136.15
 Sun-Moon sep (deg) : 154.30
 B (ring opening deg) : 81.08
 PA of pole (deg) : 25.42
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.679
 C/A sky separation (km) : 49185.1
 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	2030-10-31T22:35:43.088		21.67	-43.30	51472.14	-4.14		
lambda	I	2030-10-31T22:43:48.570		22.78	-43.10	50026.71	-1.85		

No planet occultations

lambda	E	2030-10-31T22:56:40.062		24.46	-42.63	50026.71	1.86		
epsilon	E	2030-10-31T23:05:04.220		25.51	-42.22	51552.84	4.15		