

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2045-10-31T16:30:28.630
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3880750415067933184
 2Mass ID (if available) : 10105753+1200256

ICRS Star Coord at Epoch: 10h 10m 57.56421s +12:00:26.18127s

RUWE (>1.4 is poor) : 1.62
 K magnitude : 11.465
 G magnitude : 13.971
 RP magnitude : 13.050
 BP magnitude : 14.345
 DUPflag : 0
 Distance (au) : 18.699
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 18.12
 Sun-Target sep (deg) : 67.61
 Sun-Moon sep (deg) : 40.57
 B (ring opening deg) : 16.98
 PA of pole (deg) : 102.41

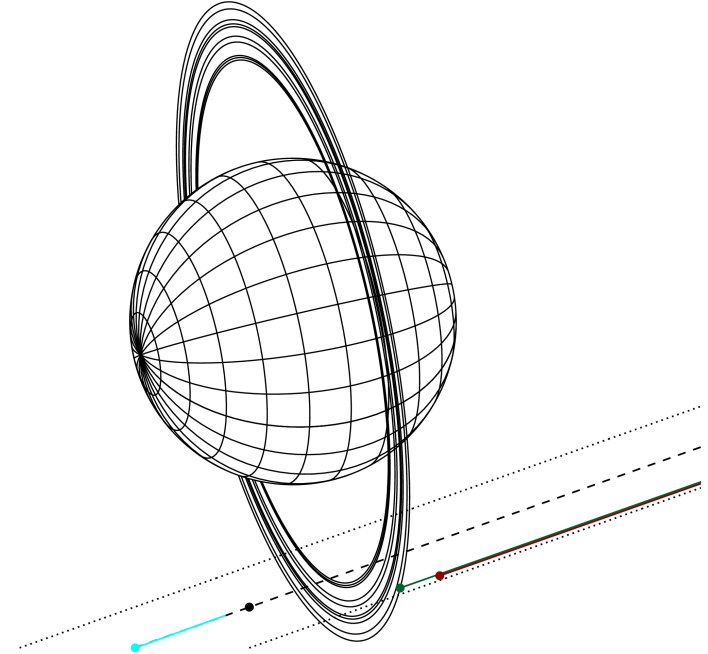
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2045-10-31T16:30:28.6300 cc: 10 10 57.5642 s; +12 00 26.181 C/A 2.943° PA 19.52 deg v_sky +18.11 km/s D 18.70 AU
 Credit: Styled after SORA/Lucky Star

Uranus 2045-10-31T16:30:28 K11.46 G13.97 XRgt

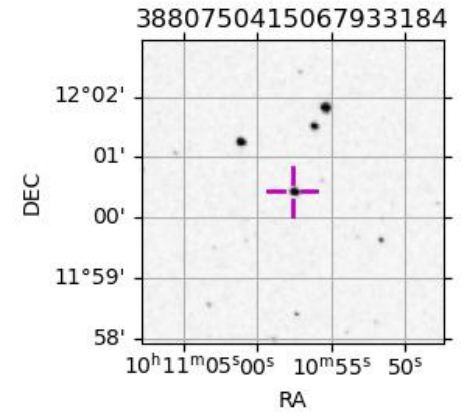
Earth
 IRTF
 AAT
 MSO



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

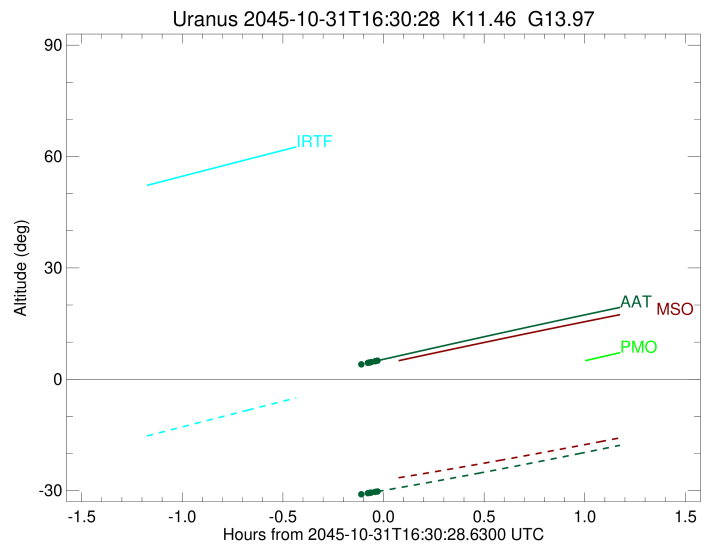
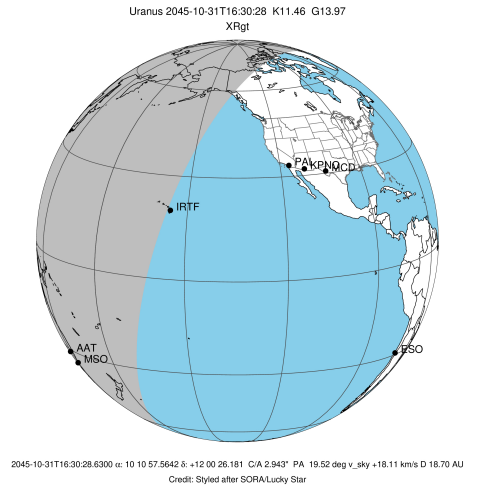
Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1					PnnRnn
PAL	Palomar Mt (200")	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs. Nanki	32.1	118.8					PnnRnn
KPNO	Kitt Peak Natl Obs	32.0	248.4					PnnRnn
MCD	McDonald Obs. 2.7m	30.7	256.0					PnnRnn
TEN	Teide 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					PnnRne
SAAO	So. Afr. Astro. Obs.	-32.4	20.8					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn

+ OCT 31 16:28 - OCT 31 16:28



3880750415067933184

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2045-10-31T16:26:50.210
 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 : 3880750415067933184
 2Mass ID (if available) : 10105753+1200256
 ICRS Star Coord at Epoch: 10h 10m 57.56421s +12:00:26.18127s
 RUWE (>1.4 is poor) : 1.62
 K magnitude : 11.465
 G magnitude : 13.971
 RP magnitude : 13.050
 BP magnitude : 14.345
 DUPflag : 0
 Distance (au) : 18.699
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 18.12
 Sun-Target sep (deg) : 67.61
 Sun-Moon sep (deg) : 40.23
 B (ring opening deg) : 16.98
 PA of pole (deg) : 102.41
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.313
 C/A sky separation (km) : 44936.2
 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	2045-10-31T16:15:54.270		2.37x	-32.18	50833.68	-28.21		
lambda	I	2045-10-31T16:16:24.106		2.47x	-32.10	50026.71	-26.14		
delta	I	2045-10-31T16:17:36.559		2.72x	-31.92	48300.35	-21.43		
gamma	I	2045-10-31T16:18:09.686		2.84x	-31.84	47628.55	-19.12		
eta	I	2045-10-31T16:18:34.519		2.92x	-31.78	47176.12	-17.31		
beta	I	2045-10-31T16:20:31.428		3.33x	-31.49	45672.51	-8.23		

No planet occultations

beta	E	2045-10-31T16:23:51.236		4.01x	-30.98	45667.69	8.23		
eta	E	2045-10-31T16:25:48.978		4.42x	-30.68	47176.12	17.31		
gamma	E	2045-10-31T16:26:13.957		4.50x	-30.61	47630.94	19.11		
delta	E	2045-10-31T16:26:46.990		4.62x	-30.53	48300.35	21.41		
lambda	E	2045-10-31T16:27:59.524		4.86x	-30.34	50026.71	26.11		
epsilon	E	2045-10-31T16:28:41.495		5.01	-30.23	51175.46	28.17		