

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2037-05-15T11:17:47.170
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3368274504994506112
 2Mass ID (if available) : 07103093+2252407

ICRS Star Coord at Epoch: 07h 10m 30.94924s +22:52:40.55736s

RUWE (>1.4 is poor) : 0.85
 K magnitude : 10.224
 G magnitude : 11.134
 RP magnitude : 10.790
 BP magnitude : 11.338
 DUPflag : 0
 Distance (au) : 19.352
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 24.91
 Sun-Target sep (deg) : 51.75
 Sun-Moon sep (deg) : 49.26
 B (ring opening deg) : 60.38
 PA of pole (deg) : 80.36

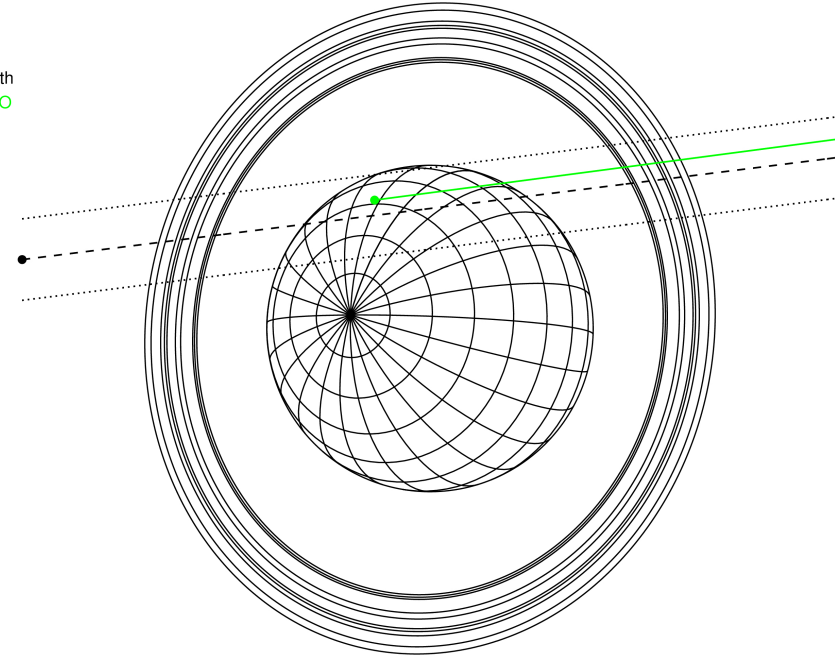
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2037-05-15T11:17:47.1700 ex: 07 10 30.9492 s: +22 52 40.557 C/A 1.336° PA 187.14 deg v_sky +24.91 km/s D 19.35 AU
 Credit: Styled after SORA/Lucky Star

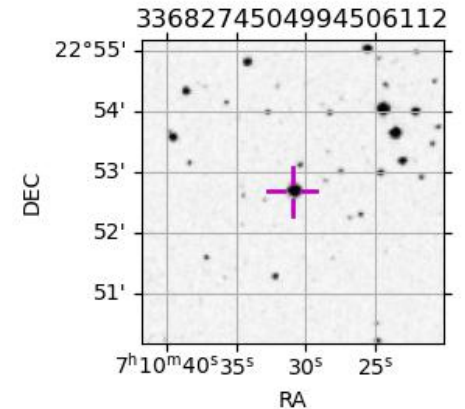
Uranus 2037-05-15T11:17:47 K10.22 G11.13 PgtRgt

Earth
 PMO

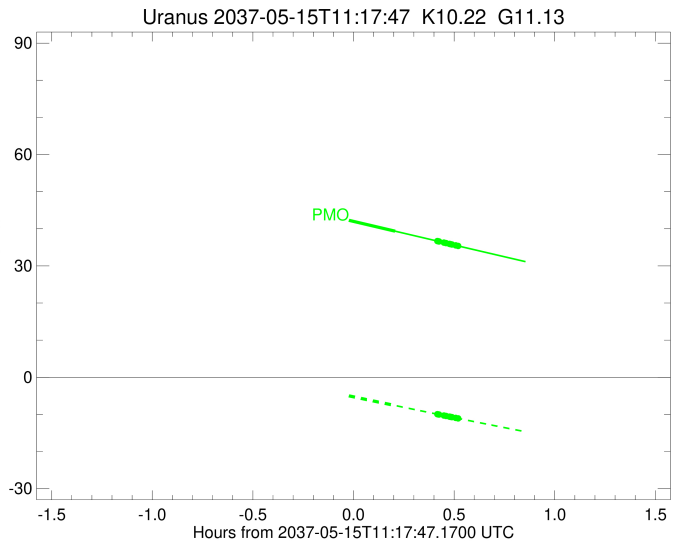
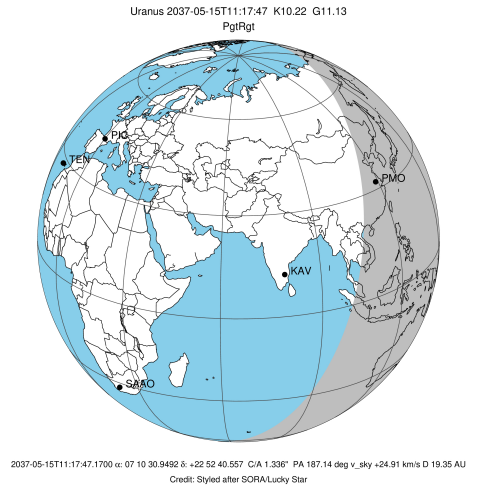


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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		+	+++++++	MAY 15 11:30 - MAY 15 11:48	PneRne
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 : 2037-05-15T11:20:27.180
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Observer code : PMO
 Location : Purple Mtn Obs. Nanking
 Latitude (deg) : 32.06667
 E. Longitude (deg) : 118.82089
 Altitude (km) : 0.364
 Gaia source ID : 3368274504994506112
 2Mass ID (if available) : 07103093+2252407
 ICRS Star Coord at Epoch: 07h 10m 30.94924s +22:52:40.55736s
 RUWE (>1.4 is poor) : 0.85
 K magnitude : 10.224
 G magnitude : 11.134
 RP magnitude : 10.790
 BP magnitude : 11.338
 DUPflag : 0
 Distance (au) : 19.352
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 24.91
 Sun-Target sep (deg) : 51.75
 Sun-Moon sep (deg) : 50.15
 B (ring opening deg) : 60.38
 PA of pole (deg) : 80.36
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 1.501
 C/A sky separation (km) : 21069.1
 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	2037-05-15T10:53:37.988	47.13	-0.61x	51507.31	-25.58		
lambda	I	2037-05-15T10:54:36.142	46.92	-0.80x	50026.71	-25.35		
delta	I	2037-05-15T10:55:44.433	46.68	-1.02x	48300.35	-25.18		
gamma	I	2037-05-15T10:56:11.434	46.58	-1.11x	47621.78	-25.09		
eta	I	2037-05-15T10:56:29.218	46.52	-1.16x	47176.12	-25.03		
beta	I	2037-05-15T10:57:30.132	46.30	-1.36x	45656.11	-24.82		
alpha	I	2037-05-15T10:58:09.273	46.17	-1.49x	44686.64	-24.66		
4	I	2037-05-15T10:59:34.137	45.86	-1.76x	42610.94	-24.29		
5	I	2037-05-15T10:59:50.447	45.81	-1.82x	42204.36	-24.24		
6	I	2037-05-15T11:00:08.520	45.74	-1.87x	41801.37	-24.14		
Uranus	I	2037-05-15T11:11:00.605	43.43	-3.97x	25291.69		22.49	23.44
Uranus	E	2037-05-15T11:30:09.884	39.36	-7.60	25519.36		-8.41	-8.81
6	E	2037-05-15T11:42:45.001	36.70	-9.94	41834.47	24.22		
5	E	2037-05-15T11:43:05.078	36.62	-10.00	42314.63	24.32		
4	E	2037-05-15T11:43:14.030	36.59	-10.03	42532.47	24.37		
alpha	E	2037-05-15T11:44:43.584	36.28	-10.30	44726.23	24.74		
beta	E	2037-05-15T11:45:22.109	36.14	-10.42	45680.03	24.90		
eta	E	2037-05-15T11:46:21.924	35.93	-10.60	47176.12	25.12		
gamma	E	2037-05-15T11:46:39.841	35.87	-10.66	47626.69	25.18		
delta	E	2037-05-15T11:47:06.550	35.77	-10.74	48300.35	25.27		
lambda	E	2037-05-15T11:48:14.591	35.53	-10.94	50026.71	25.48		
epsilon	E	2037-05-15T11:48:54.867	35.39	-11.07	51055.08	25.68		