

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2037-05-18T12:10:33.760
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3368279246638589952
 2Mass ID (if available) : 07110507+2251372

ICRS Star Coord at Epoch: 07h 11m 05.07053s +22:51:37.34204s

RUWE (>1.4 is poor) : 1.05
 K magnitude : 14.402
 G magnitude : 15.639
 RP magnitude : 15.238
 BP magnitude : 15.887
 DUPflag : 0
 Distance (au) : 19.391
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 26.04
 Sun-Target sep (deg) : 48.95
 Sun-Moon sep (deg) : 9.19
 B (ring opening deg) : 60.26
 PA of pole (deg) : 80.49

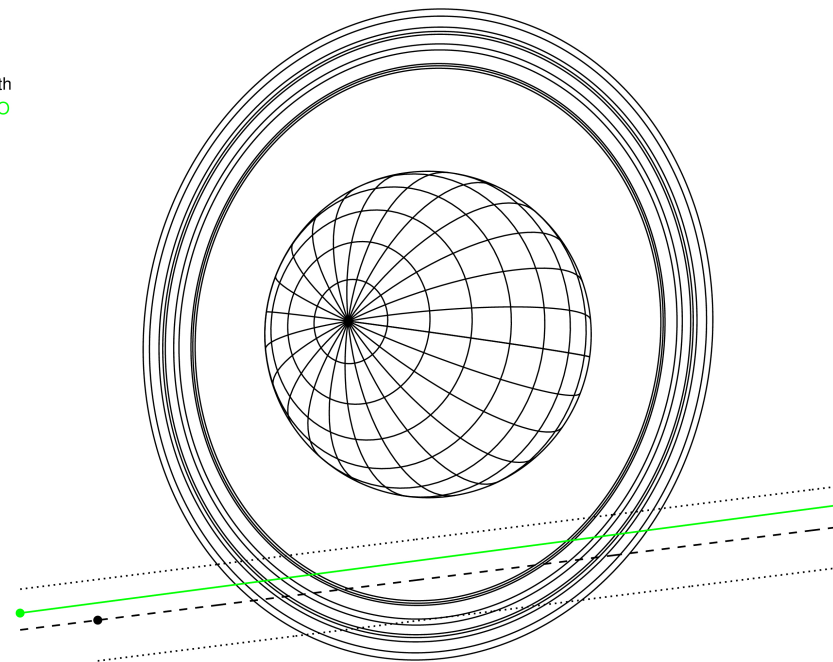
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2037-05-18T12:10:33.7600 α: 07 11 05.0705 s: +22 51 37.342 C/A 2.690° PA 7.16 deg v_sky +26.04 km/s D 19.39 AU
 Credit: Styled after SORA/Lucky Star

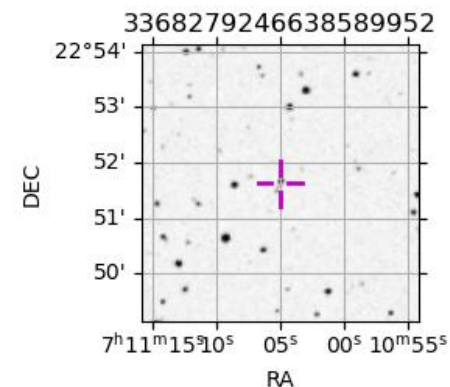
Earth
 PMO

Uranus 2037-05-18T12:10:33 K14.40 G15.64 XRgt

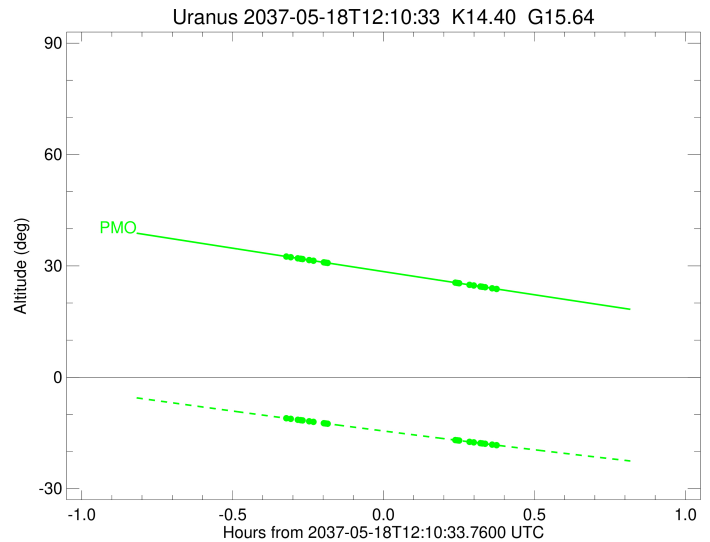
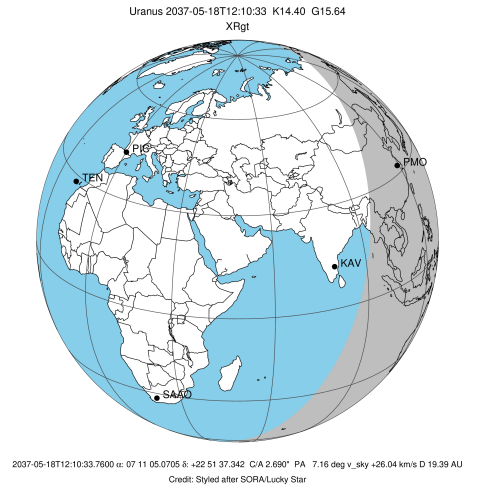


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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 18 11:51 - MAY 18 12:32	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 : 2037-05-18T12:13:44.390
 Event type : XRgt
 : No Uranus occs
 : 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 : 3368279246638589952
 2Mass ID (if available) : 07110507+2251372
 ICRS Star Coord at Epoch: 07h 11m 05.07053s +22:51:37.34204s
 RUWE (>1.4 is poor) : 1.05
 K magnitude : 14.402
 G magnitude : 15.639
 RP magnitude : 15.238
 BP magnitude : 15.887
 DUPflag : 0
 Distance (au) : 19.391
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 26.04
 Sun-Target sep (deg) : 48.95
 Sun-Moon sep (deg) : 10.07
 B (ring opening deg) : 60.26
 PA of pole (deg) : 80.49
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.482
 C/A sky separation (km) : 34899.9
 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



b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2037-05-18T11:51:16.168		32.52	-11.05	51133.13	-21.18		
lambda	I	2037-05-18T11:52:08.544		32.33	-11.20	50026.71	-20.90		
delta	I	2037-05-18T11:53:32.645		32.04	-11.46	48300.35	-20.14		
gamma	I	2037-05-18T11:54:06.341		31.92	-11.56	47627.31	-19.81		
eta	I	2037-05-18T11:54:29.254		31.84	-11.62	47176.12	-19.57		
beta	I	2037-05-18T11:55:49.443		31.56	-11.86	45641.09	-18.70		
alpha	I	2037-05-18T11:56:39.524		31.38	-12.01	44720.78	-18.14		
4	I	2037-05-18T11:58:41.907		30.96	-12.38	42600.84	-16.51		
5	I	2037-05-18T11:59:09.255		30.86	-12.46	42156.40	-16.15		
6	I	2037-05-18T11:59:27.969		30.79	-12.51	41853.25	-15.89		

No planet occultations

6	E	2037-05-18T12:24:51.378		25.48	-16.92	41879.70	15.92		
5	E	2037-05-18T12:25:14.097		25.41	-16.99	42217.98	16.18		
4	E	2037-05-18T12:25:33.821		25.34	-17.04	42550.51	16.54		
alpha	E	2037-05-18T12:27:40.540		24.90	-17.40	44751.88	18.18		
beta	E	2037-05-18T12:28:29.370		24.73	-17.53	45656.09	18.75		
eta	E	2037-05-18T12:29:48.446		24.45	-17.75	47176.12	19.62		
gamma	E	2037-05-18T12:30:11.514		24.38	-17.82	47631.55	19.86		
delta	E	2037-05-18T12:30:44.908		24.26	-17.91	48300.35	20.19		
lambda	E	2037-05-18T12:32:08.775		23.97	-18.14	50026.71	20.96		
epsilon	E	2037-05-18T12:32:42.779		23.85	-18.24	50744.54	21.24		