

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2030-11-17T09:25:23.030
 Event type : XRT
 : No Uranus occs
 : Ring occs: topocentric, not geocentric
 Gaia source ID : 3416342645098607104
 2Mass ID (if available) : 05224594+2315027

ICRS Star Coord at Epoch: 05h 22m 45.93841s +23:15:03.16223s

RUWE (>1.4 is poor) : 1.06
 K magnitude : 13.696
 G magnitude : 17.505
 RP magnitude : 16.410
 BP magnitude : 18.634
 DUPflag : 0
 Distance (au) : 18.272
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -20.24
 Sun-Target sep (deg) : 153.18
 Sun-Moon sep (deg) : 52.34
 B (ring opening deg) : 81.32
 PA of pole (deg) : 22.15

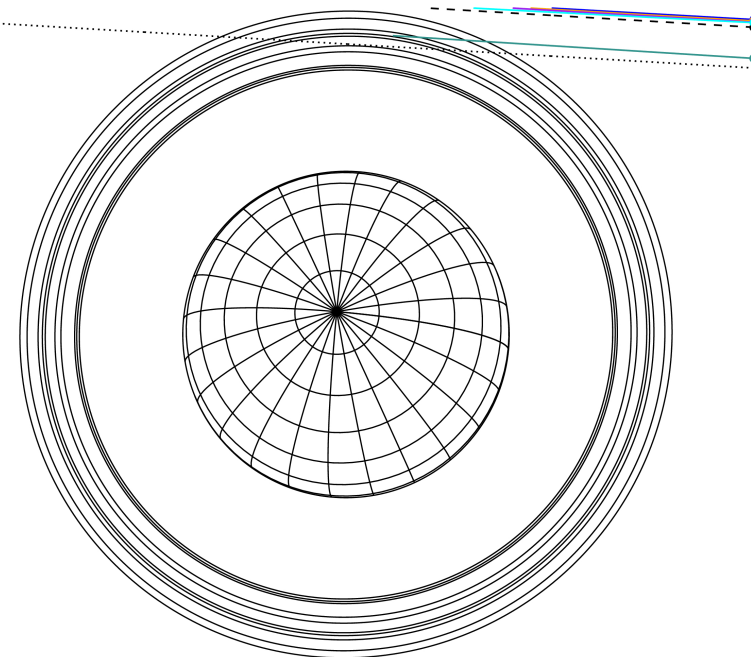
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2030-11-17T09:25:23.0300 ra: 05 22 45.9384 ra: +23 15 03.162 C/A 3.914" PA 176.63 deg v_sky -20.24 km/s D 18.27 AU
 Credit: Styled after SORA/Lucky Star

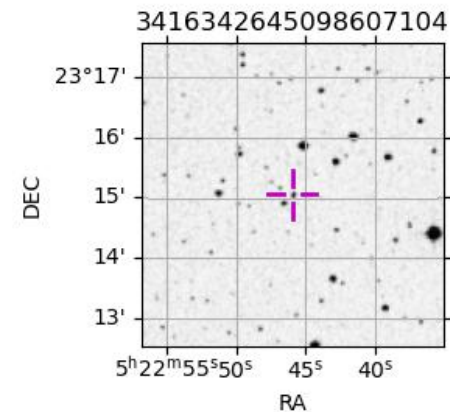
Uranus 2030-11-17T09:25:23 K13.70 G17.50 XRT

Earth
 PAL
 KPNO
 MCD
 IRTF
 ESO

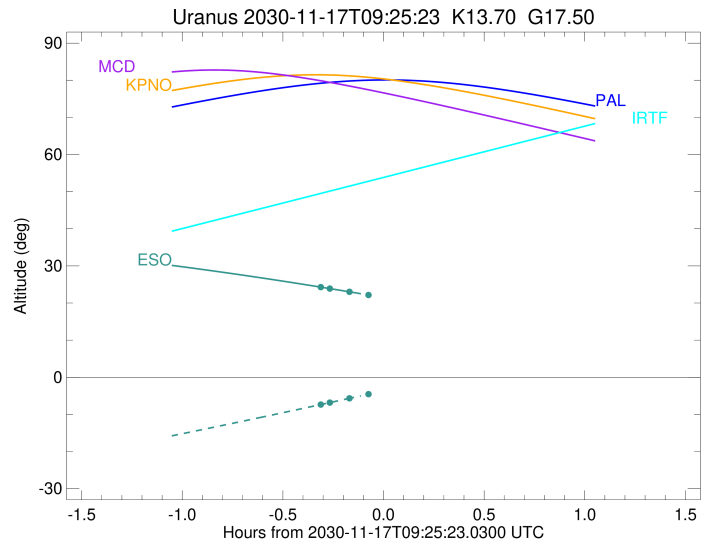
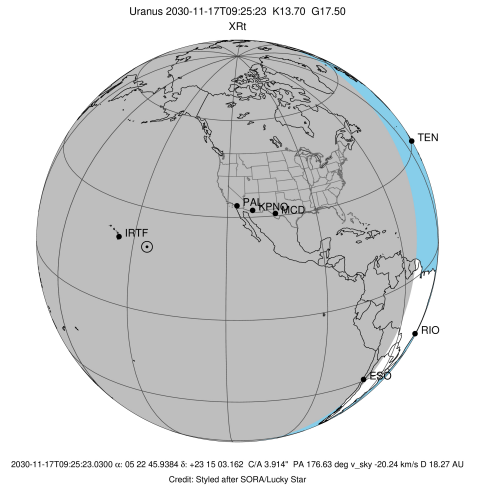


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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	+++			NOV 17 09:06 - NOV 17 09:15	PnnRin
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 : 2030-11-17T09:22:09.250
 Event type : XRt
 : No Uranus occs
 : Ring occs: topocentric, not geocentric
 Observer code : ESO
 Location : European Southern Obs. (3.6m)
 Latitude (deg) : -29.26097
 E. Longitude (deg) : 289.26831
 Altitude (km) : 2.400
 Gaia source ID : 3416342645098607104
 2Mass ID (if available) : 05224594+2315027
 ICRS Star Coord at Epoch: 05h 22m 45.93841s +23:15:03.16223s
 RUWE (>1.4 is poor) : 1.06
 K magnitude : 13.696
 G magnitude : 17.505
 RP magnitude : 16.410
 BP magnitude : 18.634
 DUPflag : 0
 Distance (au) : 18.272
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -20.24
 Sun-Target sep (deg) : 153.18
 Sun-Moon sep (deg) : 52.24
 B (ring opening deg) : 81.32
 PA of pole (deg) : 22.15
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.559
 C/A sky separation (km) : 47171.4
 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_itrff93_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	2030-11-17T09:06:22.296		24.33	-7.41	51305.74	-7.80		
lambda	I	2030-11-17T09:09:25.276		23.88	-6.82	50026.71	-6.30		
delta	I	2030-11-17T09:15:18.446		23.01	-5.66	48300.35	-3.42		
gamma	I	2030-11-17T09:21:22.498		22.09	-4.46x	47631.45	-0.24		

No planet occultations

gamma	E	2030-11-17T09:22:14.387		21.95	-4.29x	47631.50	0.24		
delta	E	2030-11-17T09:28:18.404		21.01	-3.08x	48300.35	3.42		
lambda	E	2030-11-17T09:34:11.925		20.08	-1.90x	50026.71	6.29		
epsilon	E	2030-11-17T09:37:43.257		19.51	-1.19x	51523.31	7.79		