

target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2030-11-27T09:18:01.630  
 Event type : XRT  
 : No Uranus occs  
 : Ring occs: topocentric, not geocentric  
 Gaia source ID : 3416351131953840256  
 2Mass ID (if available) : 05210509+2313387

ICRS Star Coord at Epoch: 05h 21m 05.09494s +23:13:38.79341s

RUWE (>1.4 is poor) : 1.01  
 K magnitude : 12.161  
 G magnitude : 15.727  
 RP magnitude : 14.704  
 BP magnitude : 16.796  
 DUPflag : 0  
 Distance (au) : 18.209  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : -22.26  
 Sun-Target sep (deg) : 163.67  
 Sun-Moon sep (deg) : 166.36  
 B (ring opening deg) : 81.48  
 PA of pole (deg) : 19.65

# 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

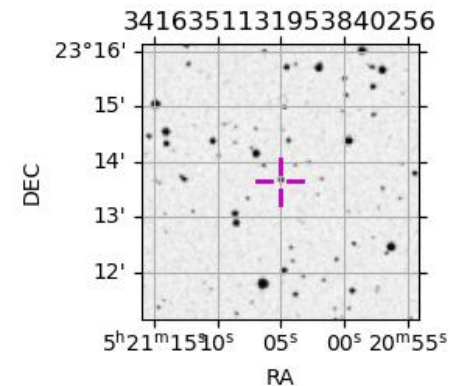
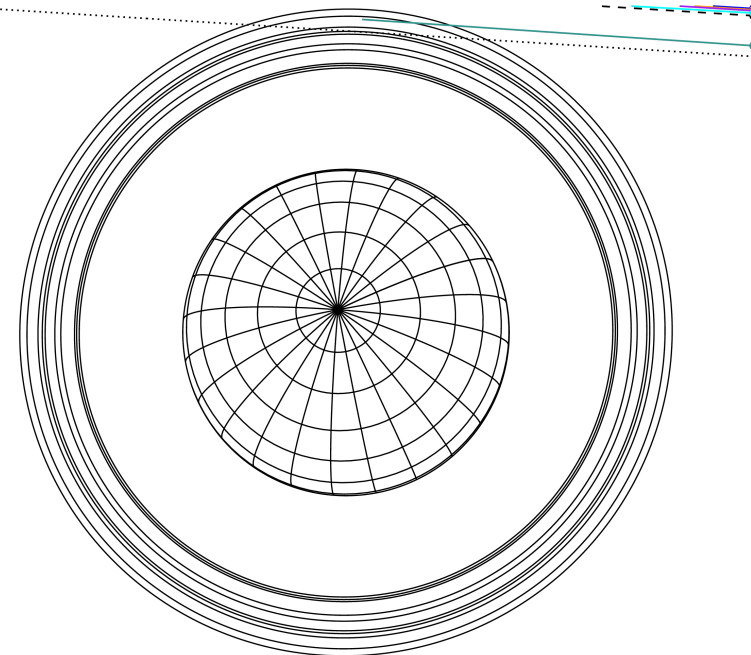
Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEncode
PIC	Pic du Midi	42.9	0.1					PnnRnn
PAL	Palomar Mt (200")	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs. Nanki	32.1	118.8					PnnRnn
KPNO	Kitt Peak Natl Obs	32.0	248.4					PnnRnn
MCD	McDonald Obs. 2.7m	30.7	256.0					PnnRnn
TEN	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 27 09:04 - NOV 27 09:09	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



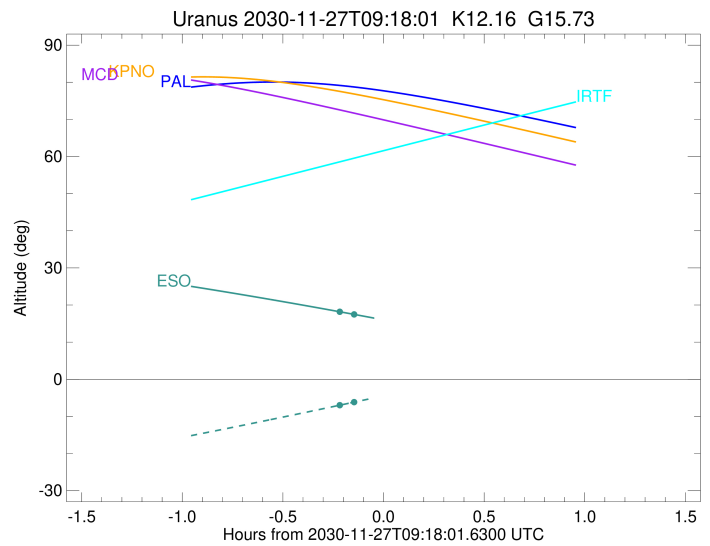
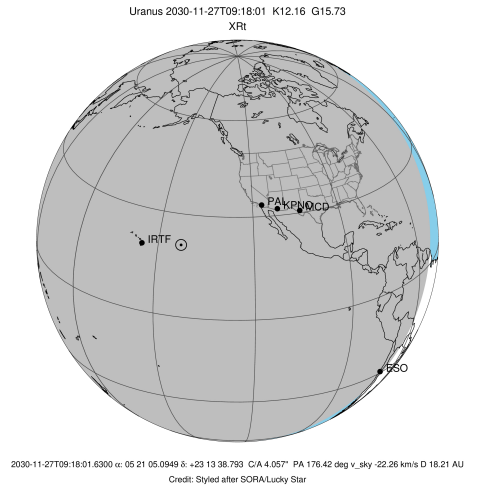
2030-11-27T09:18:01.6300 ex: 05 21 05.0949 s; +23 13 38.793 C/A 4.0577 PA 176.42 deg v\_sky -22.26 km/s D 18.21 AU  
 Credit: Styled after SORA/Lucky Star

Earth  
 PAL  
 KPNO  
 MCD  
 IRTF  
 ESO

Uranus 2030-11-27T09:18:01 K12.16 G15.73 XRT



target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2030-11-27T09:14:40.570  
 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 : 3416351131953840256  
 2Mass ID (if available) : 05210509+2313387  
 ICRS Star Coord at Epoch: 05h 21m 05.09494s +23:13:38.79341s  
 RUWE (>1.4 is poor) : 1.01  
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 g0 (km) : 0.000  
 skyplane vel. (km/s) : -22.26  
 Sun-Target sep (deg) : 163.67  
 Sun-Moon sep (deg) : 165.65  
 B (ring opening deg) : 81.48  
 PA of pole (deg) : 19.65  
 Pole direction: RA (deg): 257.31100  
 Dec (deg): -15.17500  
 C/A sky separation (") : 3.717  
 C/A sky separation (km) : 49085.9  
 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\_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	2030-11-27T09:04:42.338		18.23	-7.04	51261.00	-5.93		
lambda	I	2030-11-27T09:09:20.489		17.46	-6.15	50026.71	-3.08		

No planet occultations

lambda	E	2030-11-27T09:19:25.009		15.76	-4.20x	50026.71	3.07		
epsilon	E	2030-11-27T09:24:34.303		14.88	-3.19x	51443.43	5.93		