

target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2041-05-23T16:47:42.340  
 Event type : XRT  
 : No Uranus occs  
 : Ring occs: topocentric, not geocentric  
 Gaia source ID : 663732842788246144  
 2Mass ID (if available) : 08263698+1947551

ICRS Star Coord at Epoch: 08h 26m 36.94807s +19:47:54.69258s

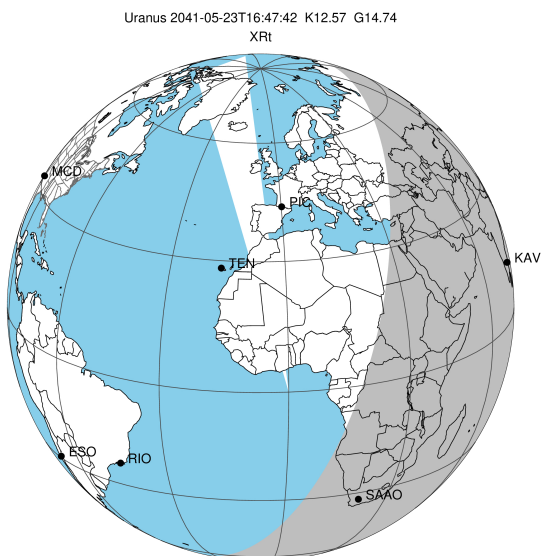
RUWE (>1.4 is poor) : 1.04  
 K magnitude : 12.566  
 G magnitude : 14.738  
 RP magnitude : 14.047  
 BP magnitude : 15.272  
 DUPflag : 0  
 Distance (au) : 18.975  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 20.62  
 Sun-Target sep (deg) : 61.82  
 Sun-Moon sep (deg) : 141.53  
 B (ring opening deg) : 42.87  
 PA of pole (deg) : 92.60

# a(km) ring

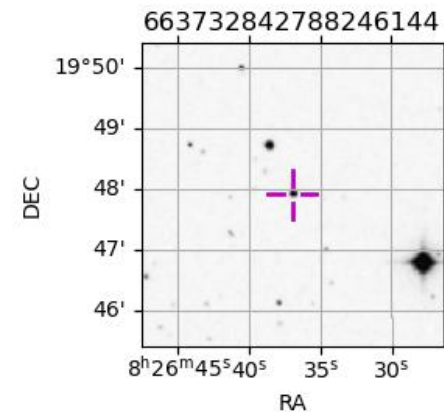
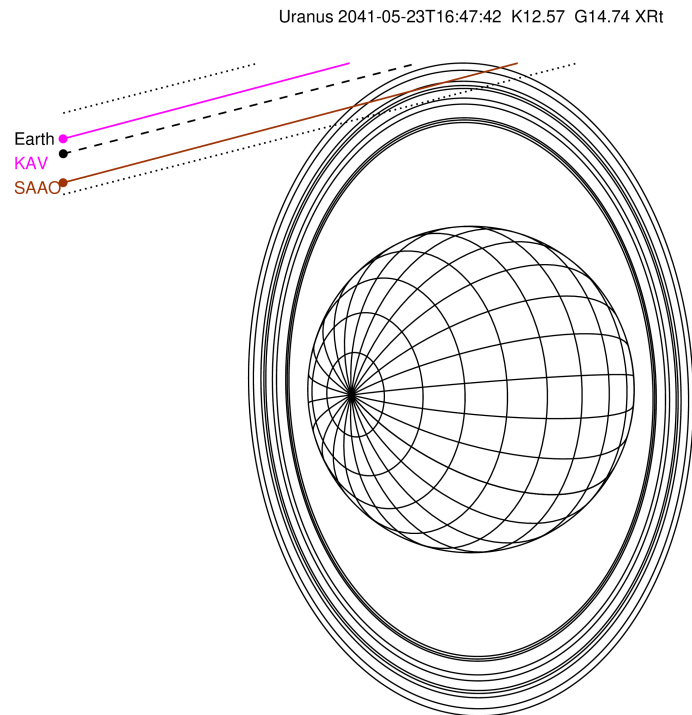
- 1 41837.2 6
- 2 42235.0 5
- 3 42571.2 4
- 4 44718.5 alpha
- 5 45661.1 beta
- 6 47176.1 eta
- 7 47626.3 gamma
- 8 48300.3 delta
- 9 50026.7 lambda
- 10 51149.4 epsilon

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

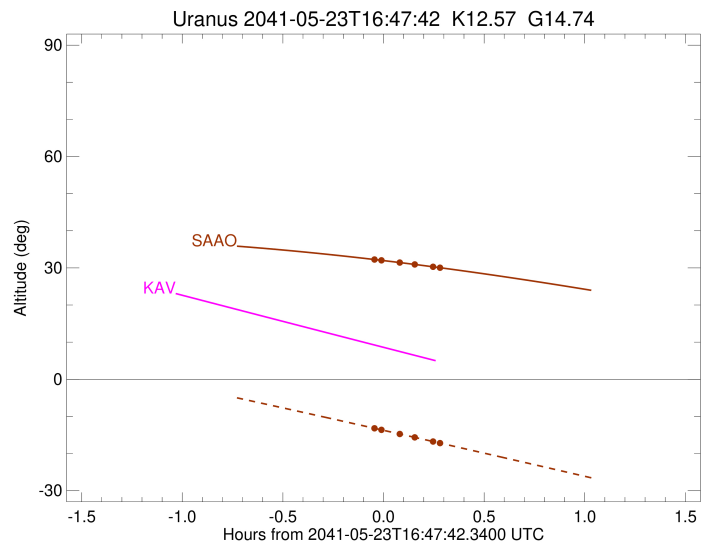
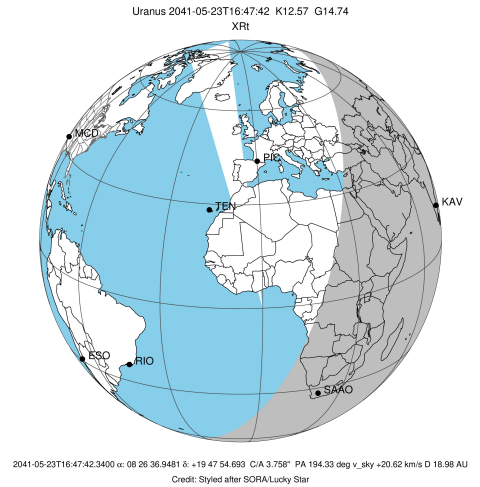
Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1					PnnRnn
PAL	Palomar Mt (200")	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs. Nanki	32.1	118.8					PnnRnn
KPNO	Kitt Peak Natl Obs	32.0	248.4					PnnRnn
MCD	McDonald Obs. 2.7m	30.7	256.0					PnnRnn
TEN	Teide 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					PnnRnn
SAAO	So. Afr. Astro. Obs.	-32.4	20.8	+++		+++	MAY 23 16:45 - MAY 23 17:04	PnnRie
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



2041-05-23T16:47:42.3400 ex: 08 26 36.9481 s: +19 47 54.693 C/A 3.758" PA 194.33 deg v\_sky +20.62 km/s D 18.98 AU  
 Credit: Styled after SORA/Lucky Star



target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2041-05-23T16:50:22.320  
 Event type : XRt  
 : No Uranus occs  
 : Ring occs: topocentric, not geocentric  
 Observer code : SAAO  
 Location : So. Afr. Astro. Obs. (Sutherland)  
 Latitude (deg) : -32.37953  
 E. Longitude (deg) : 20.81070  
 Altitude (km) : 1.768  
 Gaia source ID : 663732842788246144  
 2Mass ID (if available) : 08263698+1947551  
 ICRS Star Coord at Epoch: 08h 26m 36.94807s +19:47:54.69258s  
 RUWE (>1.4 is poor) : 1.04  
 K magnitude : 12.566  
 G magnitude : 14.738  
 RP magnitude : 14.047  
 BP magnitude : 15.272  
 DUPflag : 0  
 Distance (au) : 18.975  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 20.62  
 Sun-Target sep (deg) : 61.82  
 Sun-Moon sep (deg) : 141.48  
 B (ring opening deg) : 42.87  
 PA of pole (deg) : 92.60  
 Pole direction: RA (deg): 257.31100  
 Dec (deg): -15.17500  
 C/A sky separation (") : 3.456  
 C/A sky separation (km) : 47562.1  
 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\_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	2041-05-23T16:45:33.711		32.20	-13.32	50846.99	-9.62		
lambda	I	2041-05-23T16:47:07.580		32.03	-13.64	50026.71	-7.99		
delta	I	2041-05-23T16:52:39.667		31.43	-14.76	48300.35	-2.30		

No planet occultations

delta	E	2041-05-23T16:56:55.112		30.95	-15.63	48300.35	2.30		
lambda	E	2041-05-23T17:02:27.009		30.30	-16.76	50026.71	8.00		
epsilon	E	2041-05-23T17:04:24.733		30.07	-17.17	51078.42	9.63		