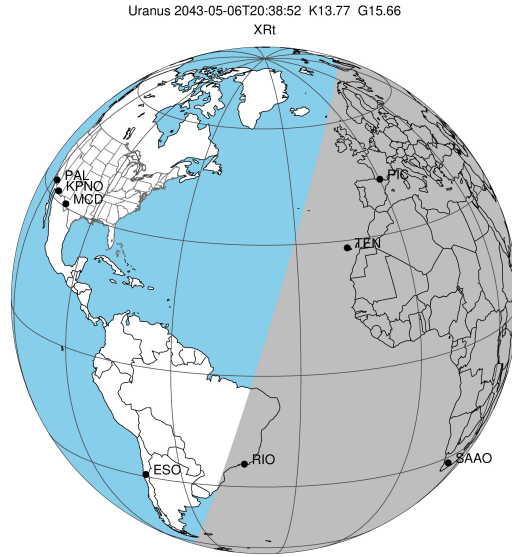


target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2043-05-06T20:38:52.980  
 Event type : XRT  
 : No Uranus occs  
 : Ring occs: topocentric, not geocentric  
 Gaia source ID : 611976047328305408  
 2Mass ID (if available) : 09015688+1737024

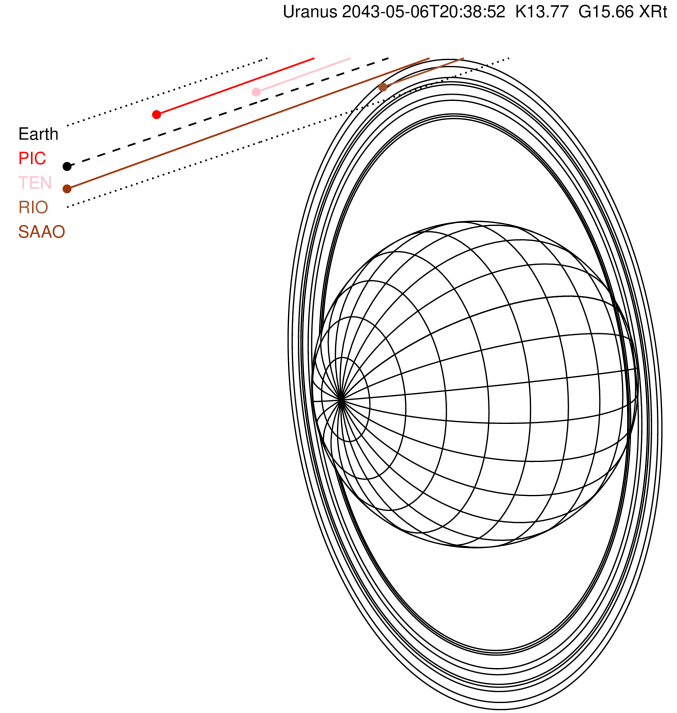
ICRS Star Coord at Epoch: 09h 01m 56.87758s +17:37:02.46720s

RUWE (>1.4 is poor) : 1.67  
 K magnitude : 13.766  
 G magnitude : 15.657  
 RP magnitude : 15.049  
 BP magnitude : 16.083  
 DUPflag : 0  
 Distance (au) : 18.451  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 8.07  
 Sun-Target sep (deg) : 87.20  
 Sun-Moon sep (deg) : 119.38  
 B (ring opening deg) : 34.35  
 PA of pole (deg) : 96.64

#	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

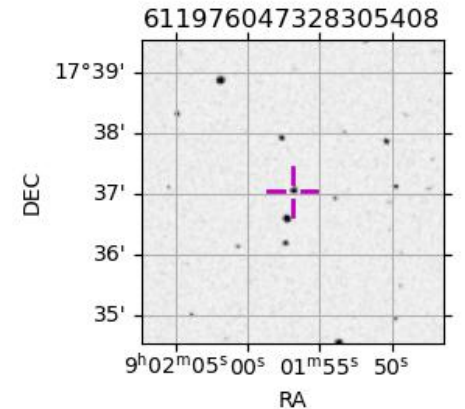


2043-05-06T20:38:52.9800 ra: 09 01 56.8776 s: +17 37 02.467 C/A 3.962° PA 198.63 deg v\_sky + 8.07 km/s D 18.45 AU  
 Credit: Styled after SORA/Lucky Star



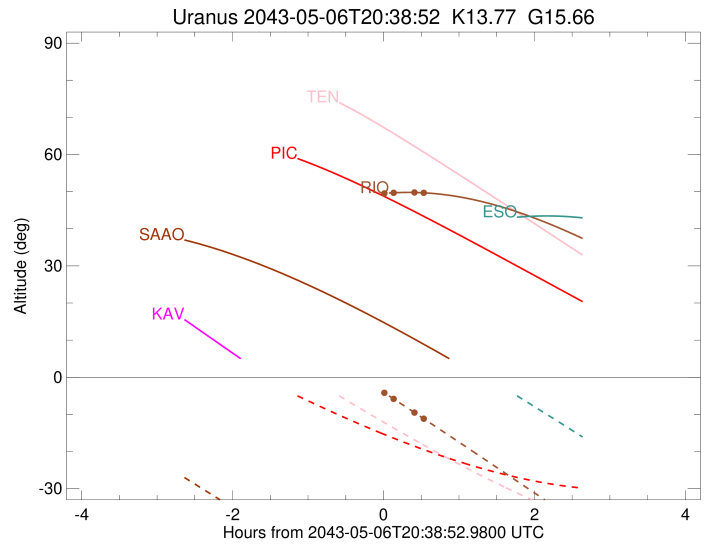
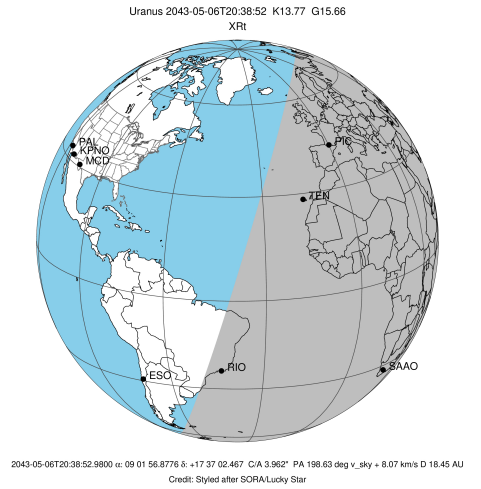
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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	+		++	MAY 06 20:47 - MAY 06 21:09	PnnRie
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            : 2043-05-06T20:38:57.320
Event type           : XRt
: No Uranus occs
: Ring occs: topocentric, not geocentric
Observer code        : RIO
Location             : Rio de Janeiro
Latitude (deg)       : -22.89506
E. Longitude (deg)  : 316.77708
Altitude (km)        : 0.033
Gaia source ID       : 611976047328305408
2Mass ID (if available) : 09015688+1737024
ICRS Star Coord at Epoch: 09h 01m 56.87758s +17:37:02.46720s
RUWE (>1.4 is poor) : 1.67
K magnitude           : 13.766
G magnitude           : 15.657
RP magnitude          : 15.049
BP magnitude          : 16.083
DUPflag              : 0
Distance (au)        : 18.451
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : 8.07
Sun-Target sep (deg) : 87.20
Sun-Moon sep (deg)   : 119.98
B (ring opening deg) : 34.35
PA of pole (deg)     : 96.64
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 3.641
C/A sky separation (km) : 48723.6
NAIF SPICE kernels   : RAJobs_U111+rgf15.spk
URKALLvl1.spk
urall1.bsp
IAU_URANUS_for_RINGFIT.tpc
vgr2.urall1.bsp
ural61.bsp
vgr2.ural61.bsp
peph.ural60.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	2043-05-06T20:40:41.648		49.55	-4.44x	50950.20	-2.97		
lambda	I	2043-05-06T20:47:04.721		49.70	-5.85	50026.71	-1.75		

No planet occultations

lambda	E	2043-05-06T21:03:22.610		49.78	-9.49	50026.71	1.75		
epsilon	E	2043-05-06T21:09:00.581		49.72	-10.75	50816.71	2.98		