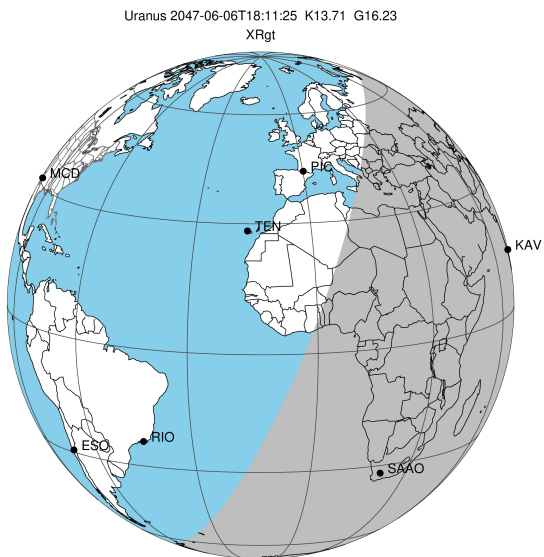


target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2047-06-06T18:11:25.350
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3877553962966359936
 2Mass ID (if available) : 10164867+1129325

ICRS Star Coord at Epoch: 10h 16m 48.61077s +11:29:32.77106s

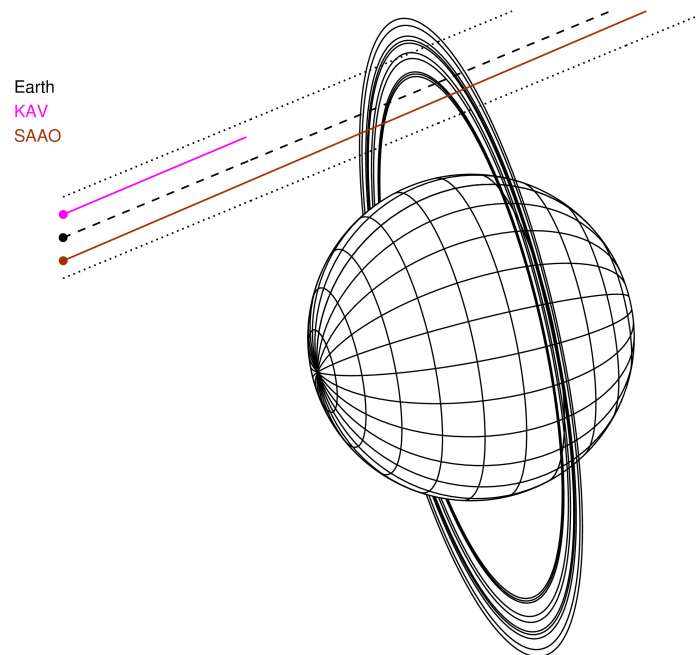
RUWE (>1.4 is poor) : 1.02
 K magnitude : 13.713
 G magnitude : 16.233
 RP magnitude : 15.436
 BP magnitude : 16.925
 DUPflag : 0
 Distance (au) : 18.518
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 13.68
 Sun-Target sep (deg) : 76.60
 Sun-Moon sep (deg) : 84.98
 B (ring opening deg) : 15.47
 PA of pole (deg) : 102.76

#	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



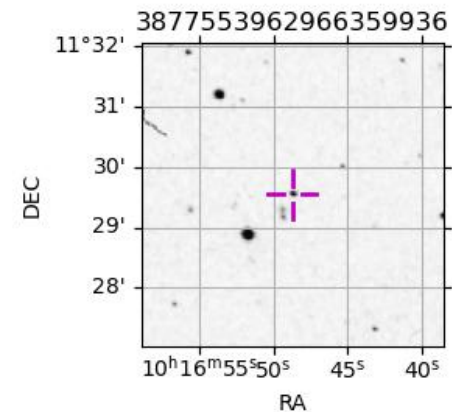
2047-06-06T18:11:25.3500 ex: 10 16 48.6108 s: +11 29 32.771 C/A 2.909° PA 202.48 deg v_sky +13.68 km/s D 18.52 AU
 Credit: Styled after SORA/Lucky Star

Uranus 2047-06-06T18:11:25 K13.71 G16.23 XRgt



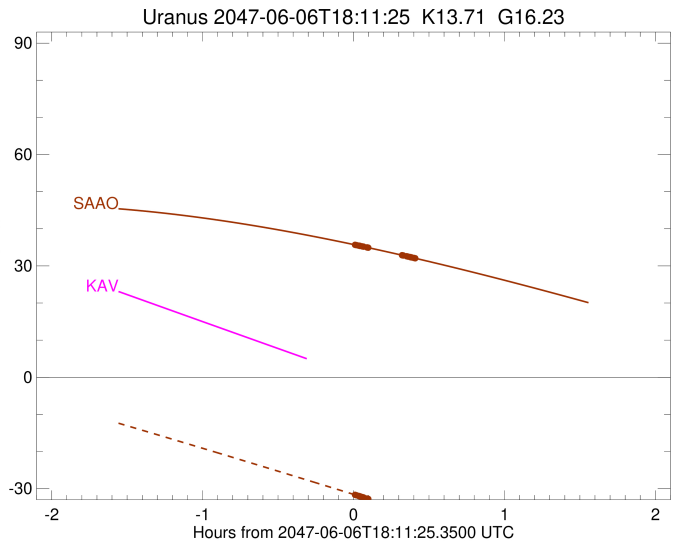
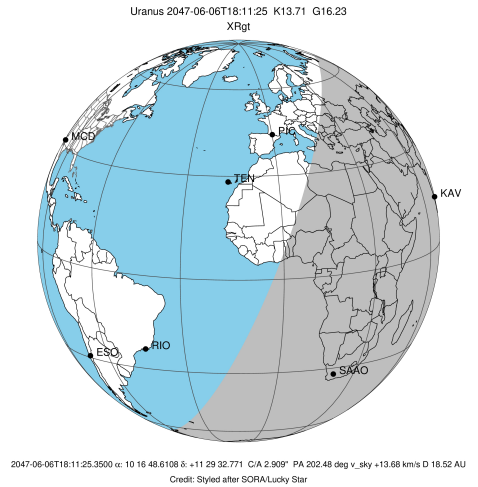
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	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					PnnRnn
AAT	Siding Spring (AAT)	-31.3	149.1					PnnRnn
SAAO	So. Afr. Astro. Obs.	-32.4	20.8	+++++		+++++	JUN 06 18:11 - JUN 06 18:36	PnnRie
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



```

target                : Uranus
target radius (km)   : 25559.00
C/A epoch            : 2047-06-06T18:16:20.330
Event type          : XRgt
: No Uranus occs
: Ring occs: geocentric, topocentric
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      : 3877553962966359936
2Mass ID (if available) : 10164867+1129325
ICRS Star Coord at Epoch: 10h 16m 48.61077s +11:29:32.77106s
RUWE (>1.4 is poor) : 1.02
K magnitude          : 13.713
G magnitude          : 16.233
RP magnitude         : 15.436
BP magnitude         : 16.925
DUPflag             : 0
Distance (au)       : 18.518
f0 (km)             : 0.000
g0 (km)             : 0.000
skyplane vel. (km/s) : 13.68
Sun-Target sep (deg) : 76.60
Sun-Moon sep (deg)  : 85.51
B (ring opening deg) : 15.47
PA of pole (deg)    : 102.76
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 2.695
C/A sky separation (km) : 36200.2
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	2047-06-06T18:11:53.378		35.70	-31.64	51473.75	-34.79		
lambda	I	2047-06-06T18:12:35.819		35.59	-31.79	50026.71	-33.55		
delta	I	2047-06-06T18:13:28.401		35.47	-31.97	48300.35	-32.08		
gamma	I	2047-06-06T18:13:49.722		35.42	-32.04	47623.06	-31.44		
eta	I	2047-06-06T18:14:04.035		35.38	-32.09	47176.12	-31.00		
beta	I	2047-06-06T18:14:55.002		35.26	-32.27	45641.10	-29.31		
alpha	I	2047-06-06T18:15:27.076		35.18	-32.38	44733.76	-28.23		
4	I	2047-06-06T18:16:49.904		34.98	-32.67	42552.25	-24.92		
5	I	2047-06-06T18:16:59.017		34.96	-32.70	42312.76	-24.54		
6	I	2047-06-06T18:17:22.211		34.90	-32.78	41820.83	-23.65		

No planet occultations

6	E	2047-06-06T18:30:44.716		32.88	-35.59	41861.14	23.69		
5	E	2047-06-06T18:30:58.110		32.84	-35.64	42257.74	24.58		
4	E	2047-06-06T18:31:15.286		32.80	-35.70	42597.69	24.96		
alpha	E	2047-06-06T18:32:34.168		32.59	-35.98	44752.23	28.29		
beta	E	2047-06-06T18:33:06.206		32.51	-36.09	45656.36	29.36		
eta	E	2047-06-06T18:33:56.195		32.38	-36.26	47176.12	31.06		
gamma	E	2047-06-06T18:34:10.430		32.34	-36.31	47621.50	31.51		
delta	E	2047-06-06T18:34:31.755		32.29	-36.39	48300.35	32.15		
lambda	E	2047-06-06T18:35:24.223		32.15	-36.57	50026.71	33.63		
epsilon	E	2047-06-06T18:36:04.352		32.04	-36.71	51397.06	34.88		