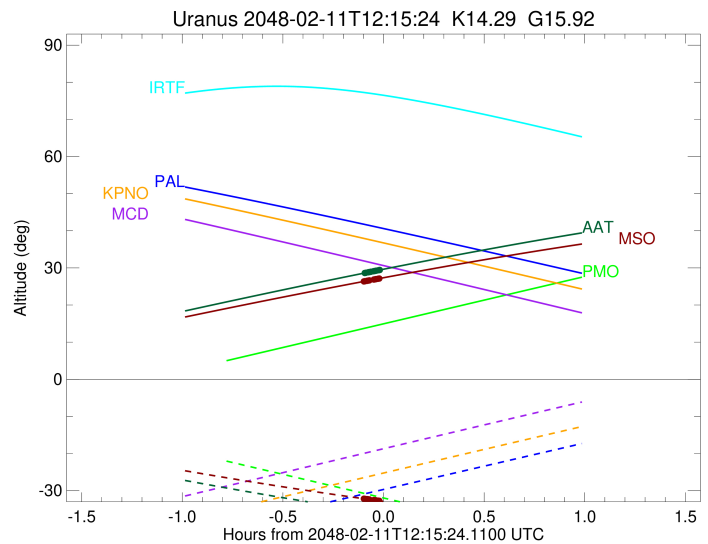
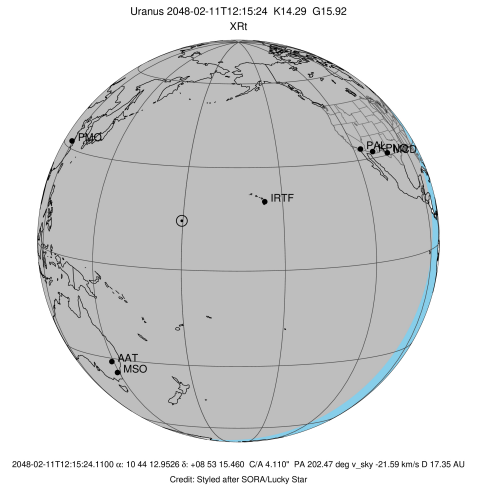



```

target                : Uranus
target radius (km)   : 25559.00
C/A epoch            : 2048-02-11T12:17:01.010
Event type          : XRt
: No Uranus occs
: Ring occs: topocentric, not geocentric
Observer code       : AAT
Location            : Siding Spring (AAT)
Latitude (deg)      : -31.27703
E. Longitude (deg)  : 149.06608
Altitude (km)       : 1.164
Gaia source ID      : 3868871909916642816
2Mass ID (if available) : 10441301+0853153
ICRS Star Coord at Epoch: 10h 44m 12.95256s +08:53:15.45989s
RUWE (>1.4 is poor) : 1.11
K magnitude         : 14.295
G magnitude         : 15.922
RP magnitude        : 15.372
BP magnitude        : 16.314
DUPflag            : 0
Distance (au)       : 17.355
f0 (km)            : 0.000
g0 (km)            : 0.000
skyplane vel. (km/s) : -21.59
Sun-Target sep (deg) : 162.59
Sun-Moon sep (deg)  : 130.25
B (ring opening deg) : 8.30
PA of pole (deg)    : 104.18
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 3.701
C/A sky separation (km) : 46588.1
NAIF SPICE kernels  : RAJobs_U111+rgf15.spk
URKALLvl1.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
  
```



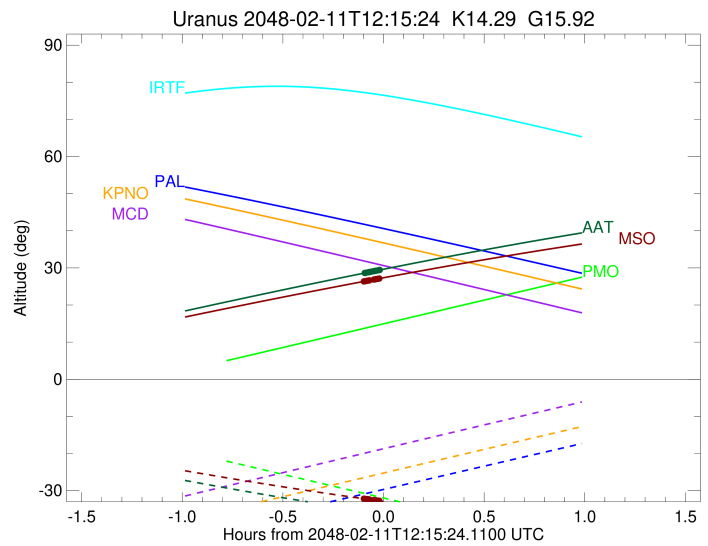
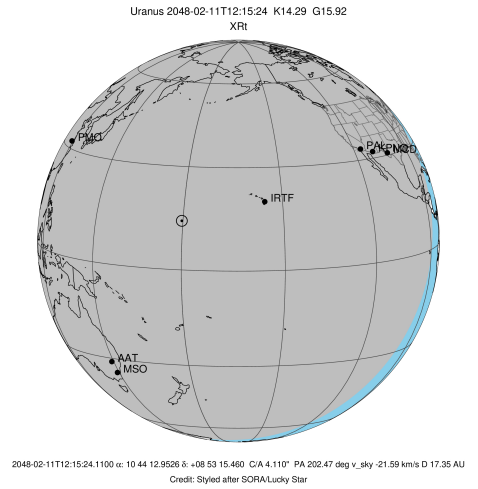
Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2048-02-11T12:09:42.979		28.61	-35.39	51544.83	-61.35		
lambda	I	2048-02-11T12:10:10.064		28.69	-35.45	50026.71	-50.80		
delta	I	2048-02-11T12:10:50.778		28.82	-35.54	48300.35	-33.67		
gamma	I	2048-02-11T12:11:14.616		28.89	-35.59	47624.76	-22.88		
eta	I	2048-02-11T12:11:41.597		28.97	-35.65	47176.12	-10.26		

No planet occultations

eta	E	2048-02-11T12:12:24.742		29.10	-35.75	47176.12	10.30		
gamma	E	2048-02-11T12:12:51.657		29.18	-35.81	47623.29	22.93		
delta	E	2048-02-11T12:13:15.556		29.25	-35.86	48300.35	33.72		
lambda	E	2048-02-11T12:13:56.261		29.38	-35.95	50026.71	50.85		
epsilon	E	2048-02-11T12:14:22.288		29.45	-36.01	51480.73	61.41		

```

target                : Uranus
target radius (km)   : 25559.00
C/A epoch            : 2048-02-11T12:16:47.820
Event type          : XRt
: No Uranus occs
: Ring occs: topocentric, not geocentric
Observer code       : MSO
Location            : Mt. Stromlo Observatory
Latitude (deg)      : -35.32000
E. Longitude (deg)  : 149.00833
Altitude (km)       : 0.770
Gaia source ID      : 3868871909916642816
2Mass ID (if available) : 10441301+0853153
ICRS Star Coord at Epoch: 10h 44m 12.95256s +08:53:15.45989s
RUWE (>1.4 is poor) : 1.11
K magnitude         : 14.295
G magnitude         : 15.922
RP magnitude        : 15.372
BP magnitude        : 16.314
DUPflag            : 0
Distance (au)       : 17.355
f0 (km)            : 0.000
g0 (km)            : 0.000
skyplane vel. (km/s) : -21.59
Sun-Target sep (deg) : 162.59
Sun-Moon sep (deg)  : 130.25
B (ring opening deg) : 8.30
PA of pole (deg)    : 104.18
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 3.681
C/A sky separation (km) : 46336.9
NAIF SPICE kernels  : RAJobs_U111+rgf15.spk
URKALLvl1.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
    
```



Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2048-02-11T12:09:27.139		26.34	-32.16	51543.71	-62.94		
lambda	I	2048-02-11T12:09:53.365		26.42	-32.22	50026.71	-52.82		
delta	I	2048-02-11T12:10:31.719		26.52	-32.30	48300.35	-36.88		
gamma	I	2048-02-11T12:10:52.653		26.58	-32.34	47624.92	-27.52		
eta	I	2048-02-11T12:11:12.095		26.64	-32.38	47176.12	-18.55		

No planet occultations

eta	E	2048-02-11T12:12:30.124		26.86	-32.54	47176.12	18.59		
gamma	E	2048-02-11T12:12:49.499		26.91	-32.58	47623.16	27.57		
delta	E	2048-02-11T12:13:10.495		26.97	-32.62	48300.35	36.93		
lambda	E	2048-02-11T12:13:48.841		27.08	-32.70	50026.71	52.87		
epsilon	E	2048-02-11T12:14:14.007		27.15	-32.75	51477.91	63.00		