

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2033-01-13T18:26:24.320
 Event type : XRT
 : No Uranus occs
 : Ring occs: topocentric, not geocentric
 Gaia source ID : 3427499664464391680
 2Mass ID (if available) : 05520327+2338284

Uranus 2033-01-13T18:26:24 K14.56 G17.41 XRT

ICRS Star Coord at Epoch: 05h 52m 03.27933s +23:38:28.42860s

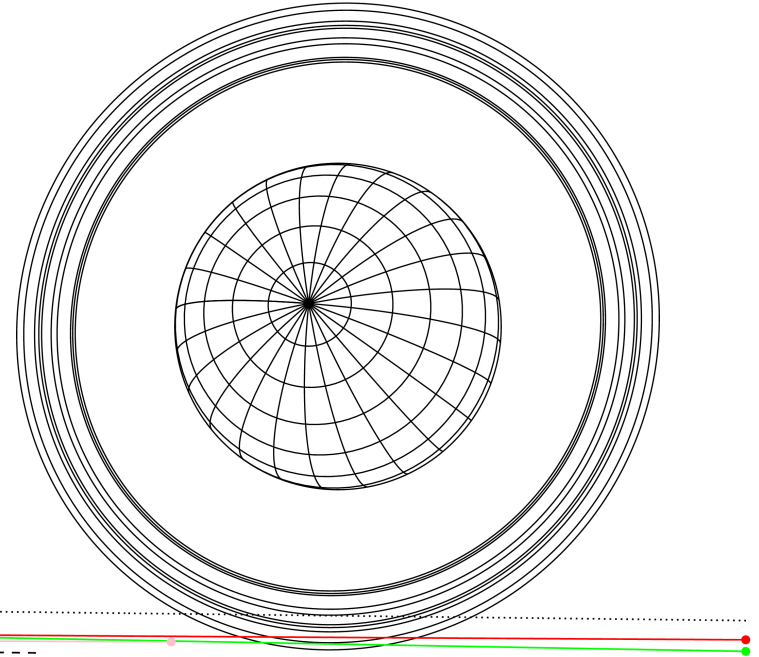
RUWE (>1.4 is poor) : 0.95
 K magnitude : 14.562
 G magnitude : 17.408
 RP magnitude : 16.476
 BP magnitude : 18.302
 DUPflag : 0
 Distance (au) : 18.121
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -20.57
 Sun-Target sep (deg) : 154.75
 Sun-Moon sep (deg) : 6.61
 B (ring opening deg) : 76.84
 PA of pole (deg) : 51.91

Uranus 2033-01-13T18:26:24 K14.56 G17.41 XRT



2033-01-13T18:26:24.3200 ra: 05 52 03.2793 s: +23 38 28.429 C/A 3.925° PA 359.32 deg v_sky -20.57 km/s D 18.12 AU
 Credit: Styled after SORA/Lucky Star

PIC
 PMO
 TEN

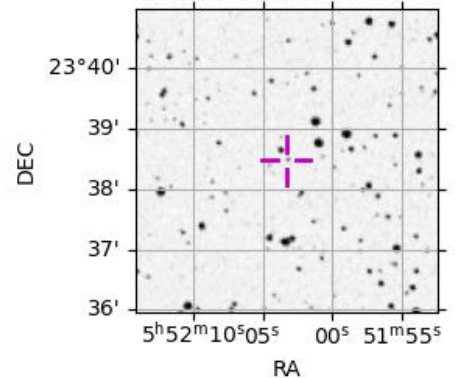


#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon

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

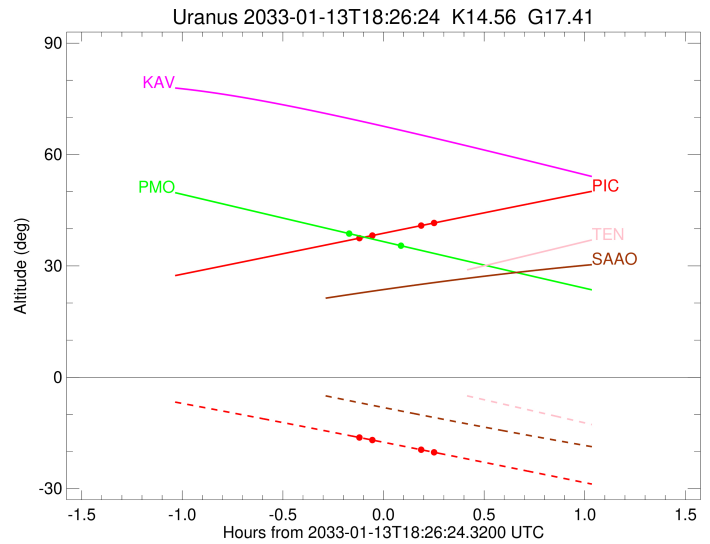
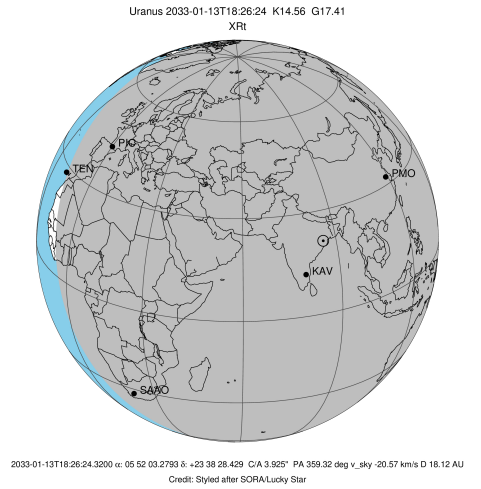
Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1	++		++	JAN 13 18:20 - JAN 13 18:40	PnnRie
PAL	Palomar Mt (200")	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs. Nanki	32.1	118.8	+		+	JAN 13 18:17 - JAN 13 18:30	PnnRie
KPNO	Kitt Peak Natl Obs	32.0	248.4					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					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn

3427499664464391680



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target                : Uranus
target radius (km)   : 25559.00
C/A epoch            : 2033-01-13T18:29:21.580
Event type           : XRt
: No Uranus occs
: Ring occs: topocentric, not geocentric
Observer code        : PIC
Location             : Pic du Midi
Latitude (deg)       : 42.93656
E. Longitude (deg)   : 0.14231
Altitude (km)        : 2.890
Gaia source ID       : 3427499664464391680
2Mass ID (if available) : 05520327+2338284
ICRS Star Coord at Epoch: 05h 52m 03.27933s +23:38:28.42860s
RUWE (>1.4 is poor) : 0.95
K magnitude           : 14.562
G magnitude           : 17.408
RP magnitude          : 16.476
BP magnitude          : 18.302
DUPflag              : 0
Distance (au)        : 18.121
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : -20.57
Sun-Target sep (deg) : 154.75
Sun-Moon sep (deg)   : 7.40
B (ring opening deg) : 76.84
PA of pole (deg)     : 51.91
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 3.705
C/A sky separation (km) : 48690.5
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
  
```



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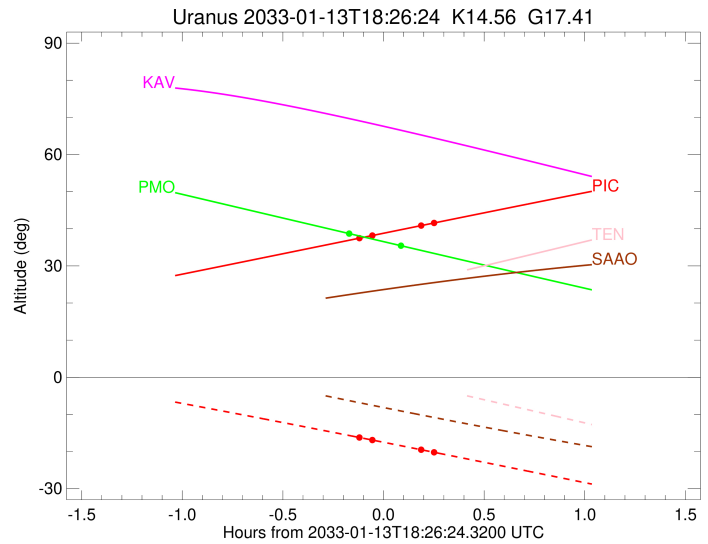
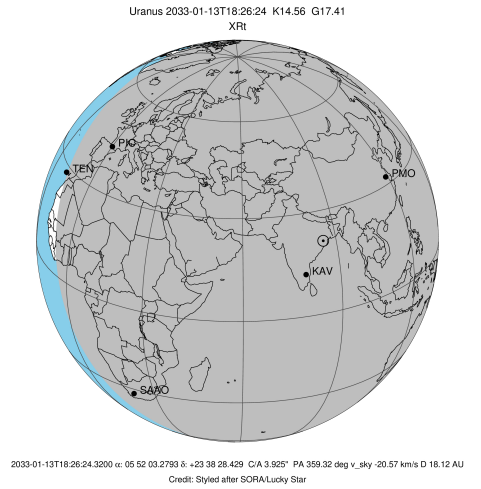
b: ring blocked by planet  x: target alt < 5.0 deg or sun > -5.0 deg
Ring      I/E      UTC      b? alt  alt-sun  radius  r-dot  lat-geo lat-geodetic
-----
epsilon   I  2033-01-13T18:20:22.748  37.68 -16.43  50781.75 -5.32
lambda    I  2033-01-13T18:23:08.491  38.19 -16.93  50026.71 -3.85

No planet occultations

lambda    E  2033-01-13T18:37:34.784  40.85 -19.51  50026.71  3.86
epsilon   E  2033-01-13T18:40:44.811  41.43 -20.08  50912.50  5.32
  
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target                : Uranus
target radius (km)    : 25559.00
C/A epoch             : 2033-01-13T18:22:52.410
Event type            : XRt
: No Uranus occs
: Ring occs: topocentric, not geocentric
Observer code         : PMO
Location              : Purple Mtn Obs. Nanking
Latitude (deg)        : 32.06667
E. Longitude (deg)    : 118.82089
Altitude (km)         : 0.364
Gaia source ID        : 3427499664464391680
2Mass ID (if available) : 05520327+2338284
ICRS Star Coord at Epoch: 05h 52m 03.27933s +23:38:28.42860s
RUWE (>1.4 is poor)  : 0.95
K magnitude           : 14.562
G magnitude           : 17.408
RP magnitude          : 16.476
BP magnitude          : 18.302
DUPflag              : 0
Distance (au)         : 18.121
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s)  : -20.57
Sun-Target sep (deg)  : 154.75
Sun-Moon sep (deg)    : 6.45
B (ring opening deg)  : 76.84
PA of pole (deg)      : 51.91
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 3.784
C/A sky separation (km) : 49729.6
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
  
```



```

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  2033-01-13T18:17:49.602  38.35 -60.41  50803.39  -3.28
  
```

No planet occultations

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epsilon   E  2033-01-13T18:30:22.041  35.70 -57.81  50884.91  3.28
  
```