

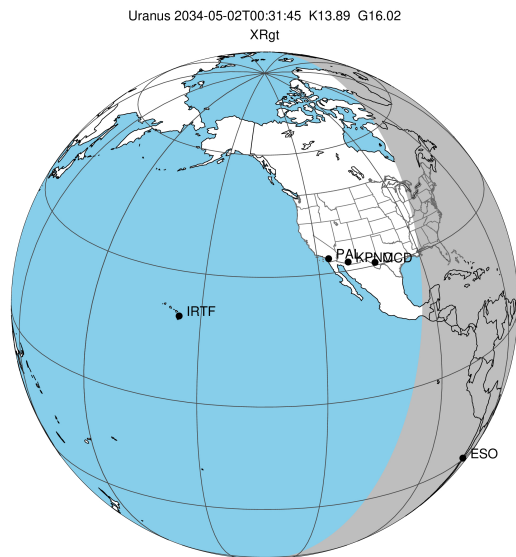
target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-05-02T00:31:45.130
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3425425435778981888
 2Mass ID (if available) : 06115495+2340512

ICRS Star Coord at Epoch: 06h 11m 54.96326s +23:40:51.14230s

RUWE (>1.4 is poor) : 0.93
 K magnitude : 13.886
 G magnitude : 16.022
 RP magnitude : 15.308
 BP magnitude : 16.560
 DUPflag : 0
 Distance (au) : 19.542
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 24.92
 Sun-Target sep (deg) : 51.50
 Sun-Moon sep (deg) : 112.31
 B (ring opening deg) : 72.97
 PA of pole (deg) : 62.88

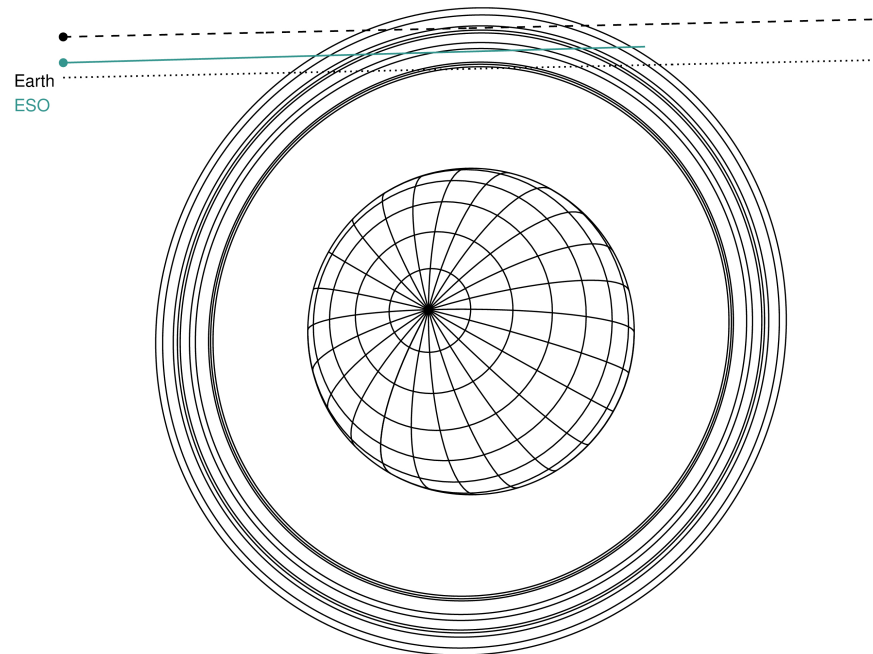
a(km) ring

- 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



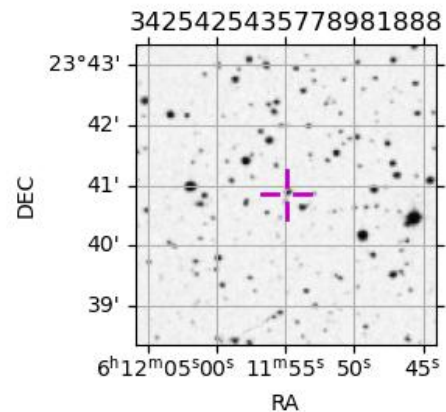
2034-05-02T00:31:45.1300 ex: 06 11 54.9633 s: +23 40 51.142 C/A 3.358° PA 181.24 deg v_sky +24.92 km/s D 19.54 AU
 Credit: Styled after SORA/Lucky Star

Uranus 2034-05-02T00:31:45 K13.89 G16.02 XRgt

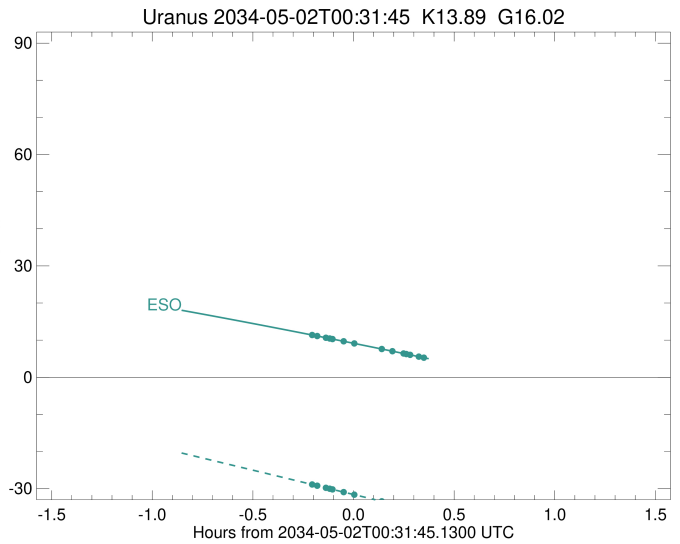
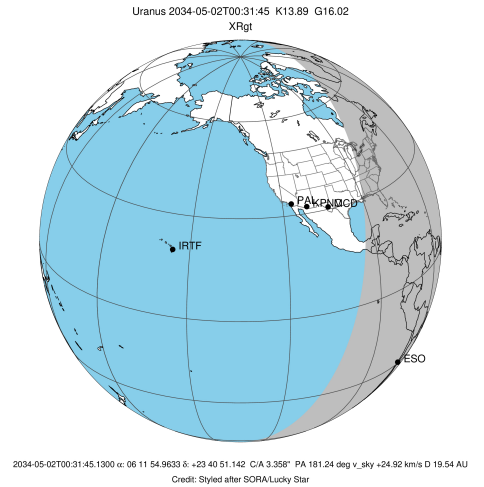


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

| Obs | Location | lat | Elon | Rings I | Planet | Rings E | Observed Events Interval | 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 | +++++++ | | +++++++ | MAY 02 00:19 - MAY 02 00:53 | PnnRie |
| 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 : 2034-05-02T00:34:59.960
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : ESO
 Location : European Southern Obs. (3.6m)
 Latitude (deg) : -29.26097
 E. Longitude (deg) : 289.26831
 Altitude (km) : 2.400
 Gaia source ID : 3425425435778981888
 2Mass ID (if available) : 06115495+2340512
 ICRS Star Coord at Epoch: 06h 11m 54.96326s +23:40:51.14230s
 RUWE (>1.4 is poor) : 0.93
 K magnitude : 13.886
 G magnitude : 16.022
 RP magnitude : 15.308
 BP magnitude : 16.560
 DUPflag : 0
 Distance (au) : 19.542
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 24.92
 Sun-Target sep (deg) : 51.50
 Sun-Moon sep (deg) : 112.71
 B (ring opening deg) : 72.97
 PA of pole (deg) : 62.88
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.093
 C/A sky separation (km) : 43831.0
 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



| Ring | I/E | UTC | b? | alt | alt-sun | radius | r-dot | lat-geo | lat-geodetic |
|---------|-----|-------------------------|----|-------|---------|----------|--------|---------|--------------|
| epsilon | I | 2034-05-02T00:19:13.542 | | 11.41 | -28.84 | 51315.81 | -13.09 | | |
| lambda | I | 2034-05-02T00:20:57.282 | | 11.11 | -29.22 | 50026.71 | -11.91 | | |
| delta | I | 2034-05-02T00:23:33.114 | | 10.64 | -29.78 | 48300.35 | -10.22 | | |
| gamma | I | 2034-05-02T00:24:41.354 | | 10.44 | -30.03 | 47629.92 | -9.42 | | |
| eta | I | 2034-05-02T00:25:31.083 | | 10.29 | -30.21 | 47176.12 | -8.82 | | |
| beta | I | 2034-05-02T00:28:54.548 | | 9.67 | -30.96 | 45643.85 | -6.20 | | |
| alpha | I | 2034-05-02T00:31:58.189 | | 9.12 | -31.62 | 44739.83 | -3.64 | | |

No planet occultations

| | | | | | | | | | |
|---------|---|-------------------------|--|------|--------|----------|-------|--|--|
| alpha | E | 2034-05-02T00:40:14.247 | | 7.60 | -33.43 | 44746.40 | 3.65 | | |
| beta | E | 2034-05-02T00:43:16.859 | | 7.04 | -34.10 | 45650.69 | 6.21 | | |
| eta | E | 2034-05-02T00:46:38.942 | | 6.41 | -34.83 | 47176.12 | 8.84 | | |
| gamma | E | 2034-05-02T00:47:28.204 | | 6.26 | -35.01 | 47626.30 | 9.44 | | |
| delta | E | 2034-05-02T00:48:36.703 | | 6.04 | -35.26 | 48300.35 | 10.24 | | |
| lambda | E | 2034-05-02T00:51:12.209 | | 5.56 | -35.83 | 50026.71 | 11.94 | | |
| epsilon | E | 2034-05-02T00:53:13.959 | | 5.18 | -36.27 | 51554.18 | 13.13 | | |