

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2049-03-22T22:51:53.870
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3865150097415908096
 2Mass ID (if available) : 10562344+0739151

Uranus 2049-03-22T22:51:53 K14.29 G16.16 XRgt

ICRS Star Coord at Epoch: 10h 56m 23.41321s +07:39:14.99571s

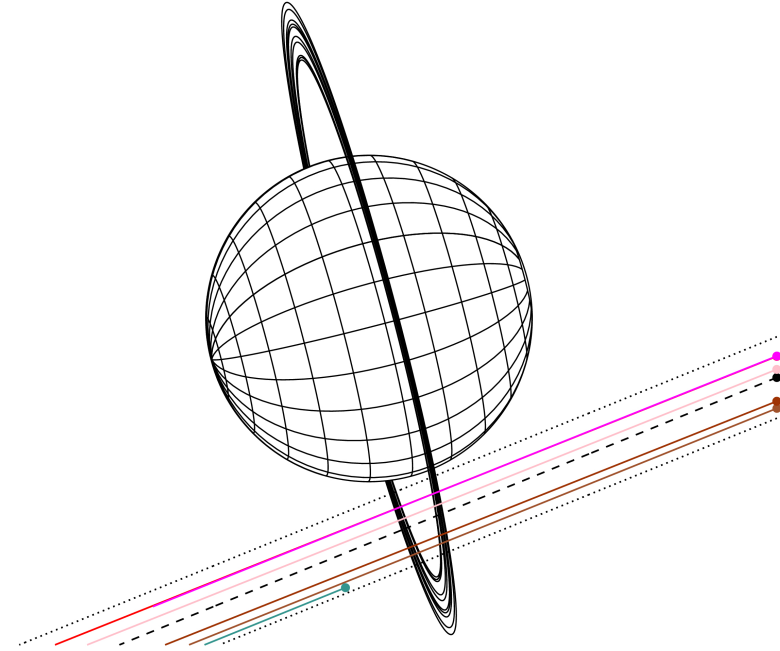
RUWE (>1.4 is poor) : 0.99
 K magnitude : 14.288
 G magnitude : 16.160
 RP magnitude : 15.526
 BP magnitude : 16.636
 DUPflag : 0
 Distance (au) : 17.346
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -21.17
 Sun-Target sep (deg) : 160.34
 Sun-Moon sep (deg) : 62.22
 B (ring opening deg) : 5.08
 PA of pole (deg) : 104.67

Uranus 2049-03-22T22:51:53 K14.29 G16.16 XRgt



2049-03-22T22:51:53.8700 α: 10 56 23.4132 s: +07 39 14.996 C/A 2.592" PA 22.13 deg v_sky -21.17 km/s D 17.35 AU
 Credit: Styled after SORA/Lucky Star

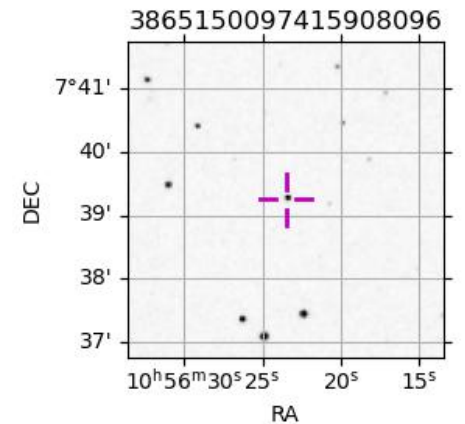
Earth
 PIC
 TEN
 KAV
 RIO
 ESO
 SAAO



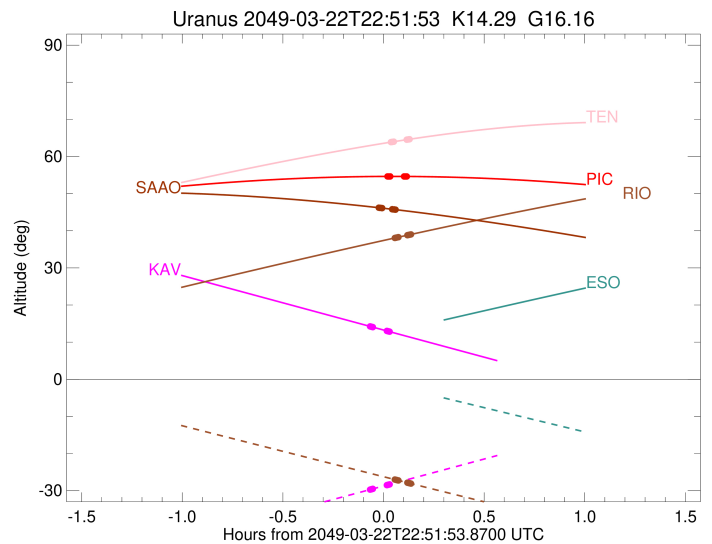
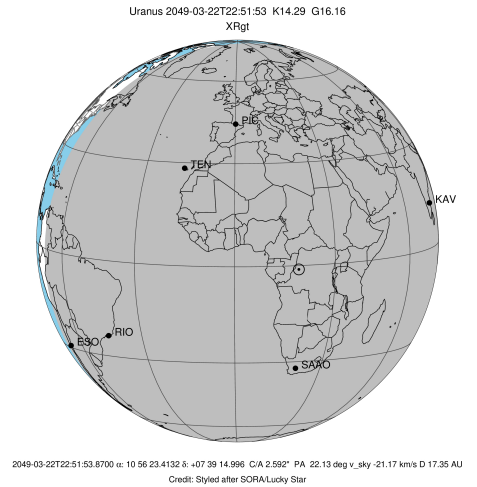
| # | a(km) | ring |
|----|---------|---------|
| 1 | 41837.2 | 6 |
| 2 | 42235.0 | 5 |
| 3 | 42571.2 | 4 |
| 4 | 44718.5 | alpha |
| 5 | 45661.1 | beta |
| 6 | 47176.1 | eta |
| 7 | 47626.3 | gamma |
| 8 | 48300.3 | delta |
| 9 | 50026.7 | lambda |
| 10 | 51149.4 | epsilon |

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 | OEncode |
|------|-----------------------|-------|-------|---------|--------|---------|-----------------------------|---------|
| PIC | Pic du Midi | 42.9 | 0.1 | +++++ | | +++++ | MAR 22 22:53 - MAR 22 22:58 | PnnRie |
| 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 | +++++ | | +++++ | MAR 22 22:54 - MAR 22 22:59 | PnnRie |
| IRTF | Mauna Kea/IRTF | 19.8 | 204.5 | | | | | PnnRnn |
| KAV | Kavalur Observatory | 12.6 | 78.8 | +++++ | | +++++ | MAR 22 22:47 - MAR 22 22:53 | PnnRie |
| RIO | Rio de Janeiro | -22.9 | 316.8 | +++++ | | +++++ | MAR 22 22:55 - MAR 22 23:00 | 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 | +++++ | | +++++ | MAR 22 22:50 - MAR 22 22:55 | PnnRie |
| MSO | Mt. Stromlo Observato | -35.3 | 149.0 | | | | | PnnRnn |



target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2049-03-22T22:53:09.360
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : PIC
 Location : Pic du Midi
 Latitude (deg) : 42.93656
 E. Longitude (deg) : 0.14231
 Altitude (km) : 2.890
 Gaia source ID : 3865150097415908096
 2Mass ID (if available) : 10562344+0739151
 ICRS Star Coord at Epoch: 10h 56m 23.41321s +07:39:14.99571s
 RUWE (>1.4 is poor) : 0.99
 K magnitude : 14.288
 G magnitude : 16.160
 RP magnitude : 15.526
 BP magnitude : 16.636
 DUPflag : 0
 Distance (au) : 17.346
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -21.17
 Sun-Target sep (deg) : 160.34
 Sun-Moon sep (deg) : 63.04
 B (ring opening deg) : 5.08
 PA of pole (deg) : 104.67
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.323
 C/A sky separation (km) : 29221.1
 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_itrf93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk

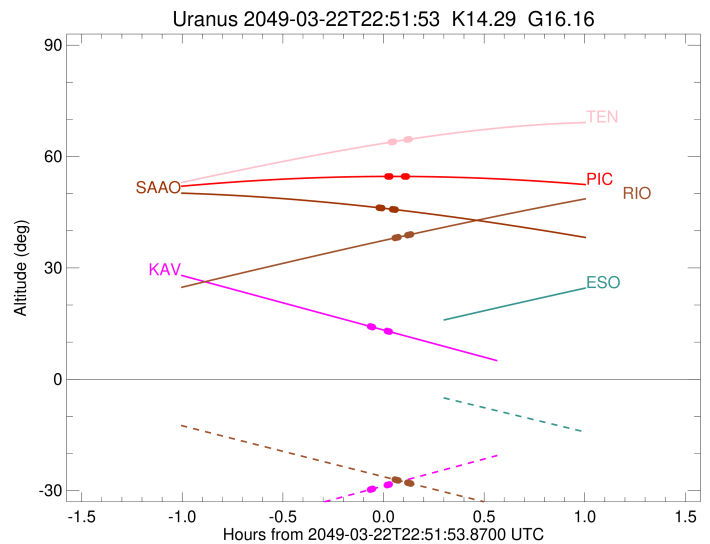
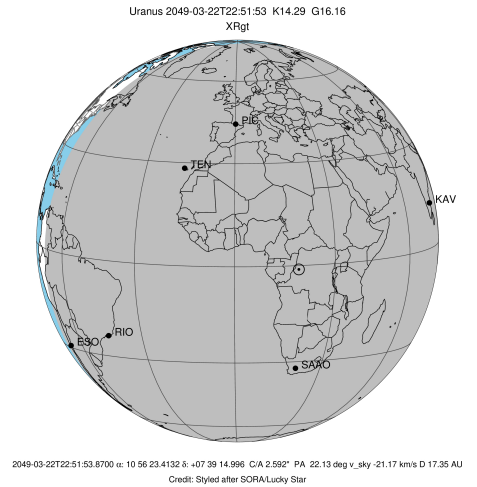


| Ring | I/E | UTC | b? | alt | alt-sun | radius | r-dot | lat-geo | lat-geodetic |
|---------|-----|-------------------------|----|-------|---------|----------|---------|---------|--------------|
| epsilon | I | 2049-03-22T22:53:03.263 | | 54.64 | -43.20 | 51390.27 | -198.48 | | |
| lambda | I | 2049-03-22T22:53:10.210 | | 54.64 | -43.21 | 50026.71 | -194.90 | | |
| delta | I | 2049-03-22T22:53:19.152 | | 54.64 | -43.22 | 48300.34 | -191.09 | | |
| gamma | I | 2049-03-22T22:53:22.666 | | 54.64 | -43.23 | 47631.57 | -189.48 | | |
| eta | I | 2049-03-22T22:53:25.077 | | 54.64 | -43.23 | 47176.12 | -188.34 | | |
| beta | I | 2049-03-22T22:53:33.428 | | 54.64 | -43.24 | 45651.52 | -184.43 | | |
| alpha | I | 2049-03-22T22:53:38.766 | | 54.64 | -43.25 | 44715.41 | -181.82 | | |
| 4 | I | 2049-03-22T22:53:51.068 | | 54.64 | -43.26 | 42601.67 | -175.38 | | |
| 5 | I | 2049-03-22T22:53:51.894 | | 54.64 | -43.26 | 42184.05 | -173.00 | | |
| 6 | I | 2049-03-22T22:53:56.630 | | 54.64 | -43.27 | 41857.89 | -172.23 | | |

No planet occultations

| | | | | | | | | | |
|---------|---|-------------------------|--|-------|--------|----------|--------|--|--|
| 6 | E | 2049-03-22T22:58:01.135 | | 54.64 | -43.58 | 41799.94 | 172.28 | | |
| 5 | E | 2049-03-22T22:58:01.181 | | 54.64 | -43.58 | 42174.22 | 173.05 | | |
| 4 | E | 2049-03-22T22:58:04.589 | | 54.64 | -43.58 | 42603.44 | 175.43 | | |
| alpha | E | 2049-03-22T22:58:16.618 | | 54.64 | -43.60 | 44685.43 | 181.86 | | |
| beta | E | 2049-03-22T22:58:22.408 | | 54.64 | -43.60 | 45680.16 | 184.47 | | |
| eta | E | 2049-03-22T22:58:30.543 | | 54.63 | -43.61 | 47176.12 | 188.36 | | |
| gamma | E | 2049-03-22T22:58:32.918 | | 54.63 | -43.62 | 47624.75 | 189.51 | | |
| delta | E | 2049-03-22T22:58:36.468 | | 54.63 | -43.62 | 48300.36 | 191.11 | | |
| lambda | E | 2049-03-22T22:58:45.412 | | 54.63 | -43.63 | 50026.70 | 194.92 | | |
| epsilon | E | 2049-03-22T22:58:52.255 | | 54.63 | -43.64 | 51369.54 | 198.49 | | |

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2049-03-22T22:53:55.150
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : TEN
 Location : Teide Obs./Tenerife
 Latitude (deg) : 28.30050
 E. Longitude (deg) : 343.48909
 Altitude (km) : 2.395
 Gaia source ID : 3865150097415908096
 2Mass ID (if available) : 10562344+0739151
 ICRS Star Coord at Epoch: 10h 56m 23.41321s +07:39:14.99571s
 RUWE (>1.4 is poor) : 0.99
 K magnitude : 14.288
 G magnitude : 16.160
 RP magnitude : 15.526
 BP magnitude : 16.636
 DUPflag : 0
 Distance (au) : 17.346
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -21.17
 Sun-Target sep (deg) : 160.34
 Sun-Moon sep (deg) : 63.17
 B (ring opening deg) : 5.08
 PA of pole (deg) : 104.67
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.473
 C/A sky separation (km) : 31118.6
 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

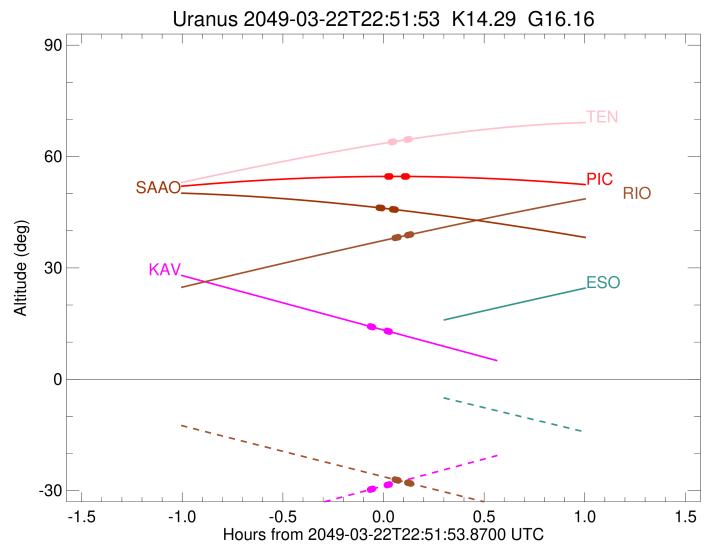
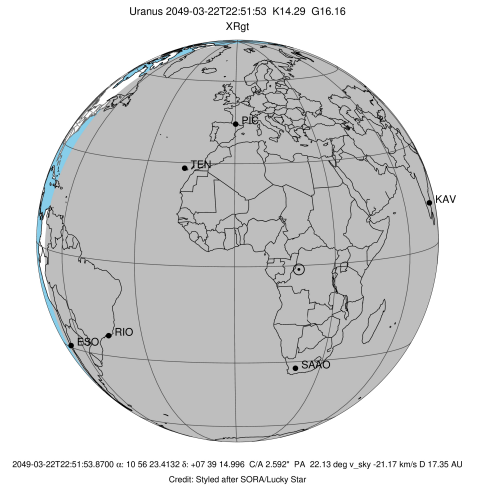


| Ring | I/E | UTC | b? | alt | alt-sun | radius | r-dot | lat-geo | lat-geodetic |
|---------|-----|-------------------------|----|-------|---------|----------|---------|---------|--------------|
| epsilon | I | 2049-03-22T22:54:05.402 | | 63.88 | -45.80 | 51405.07 | -192.41 | | |
| lambda | I | 2049-03-22T22:54:12.659 | | 63.89 | -45.82 | 50026.72 | -188.30 | | |
| delta | I | 2049-03-22T22:54:21.935 | | 63.92 | -45.85 | 48300.36 | -183.80 | | |
| gamma | I | 2049-03-22T22:54:25.592 | | 63.92 | -45.86 | 47631.55 | -181.88 | | |
| eta | I | 2049-03-22T22:54:28.105 | | 63.93 | -45.87 | 47176.12 | -180.53 | | |
| beta | I | 2049-03-22T22:54:36.822 | | 63.95 | -45.89 | 45652.53 | -175.83 | | |
| alpha | I | 2049-03-22T22:54:42.418 | | 63.97 | -45.91 | 44713.47 | -172.62 | | |
| 4 | I | 2049-03-22T22:54:55.370 | | 64.00 | -45.95 | 42603.77 | -164.67 | | |
| 5 | I | 2049-03-22T22:54:56.331 | | 64.00 | -45.95 | 42180.10 | -161.94 | | |
| 6 | I | 2049-03-22T22:55:01.325 | | 64.01 | -45.97 | 41855.38 | -160.85 | | |

No planet occultations

| | | | | | | | | | |
|---------|---|-------------------------|--|-------|--------|----------|--------|--|--|
| 6 | E | 2049-03-22T22:58:48.569 | | 64.54 | -46.64 | 41801.39 | 160.93 | | |
| 5 | E | 2049-03-22T22:58:48.564 | | 64.54 | -46.64 | 42170.94 | 162.02 | | |
| 4 | E | 2049-03-22T22:58:52.264 | | 64.55 | -46.65 | 42605.41 | 164.75 | | |
| alpha | E | 2049-03-22T22:59:04.934 | | 64.58 | -46.69 | 44685.07 | 172.69 | | |
| beta | E | 2049-03-22T22:59:10.989 | | 64.59 | -46.71 | 45679.74 | 175.89 | | |
| eta | E | 2049-03-22T22:59:19.485 | | 64.61 | -46.73 | 47176.13 | 180.58 | | |
| gamma | E | 2049-03-22T22:59:21.962 | | 64.62 | -46.74 | 47625.00 | 181.94 | | |
| delta | E | 2049-03-22T22:59:25.655 | | 64.63 | -46.75 | 48300.34 | 183.85 | | |
| lambda | E | 2049-03-22T22:59:34.932 | | 64.65 | -46.78 | 50026.70 | 188.34 | | |
| epsilon | E | 2049-03-22T22:59:42.083 | | 64.66 | -46.80 | 51385.00 | 192.45 | | |

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2049-03-22T22:47:55.690
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : KAV
 Location : Kavalur Observatory
 Latitude (deg) : 12.57556
 E. Longitude (deg) : 78.83167
 Altitude (km) : 0.722
 Gaia source ID : 3865150097415908096
 2Mass ID (if available) : 10562344+0739151
 ICRS Star Coord at Epoch: 10h 56m 23.41321s +07:39:14.99571s
 RUWE (>1.4 is poor) : 0.99
 K magnitude : 14.288
 G magnitude : 16.160
 RP magnitude : 15.526
 BP magnitude : 16.636
 DUPflag : 0
 Distance (au) : 17.346
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -21.17
 Sun-Target sep (deg) : 160.34
 Sun-Moon sep (deg) : 62.07
 B (ring opening deg) : 5.08
 PA of pole (deg) : 104.67
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.323
 C/A sky separation (km) : 29229.7
 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

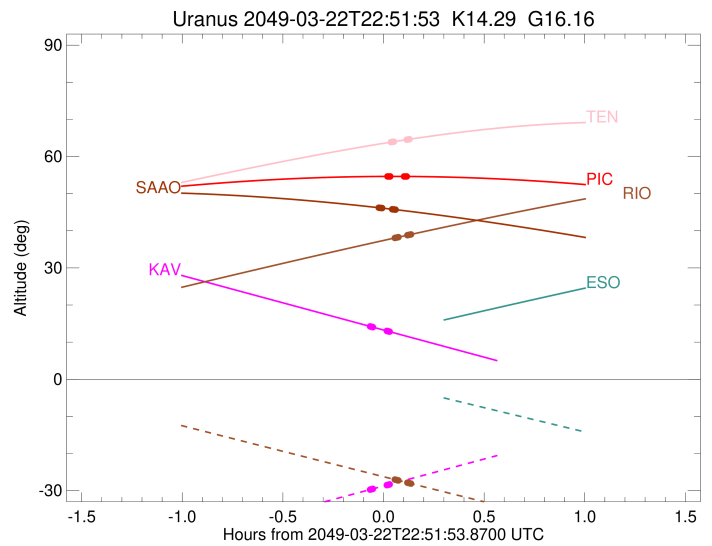
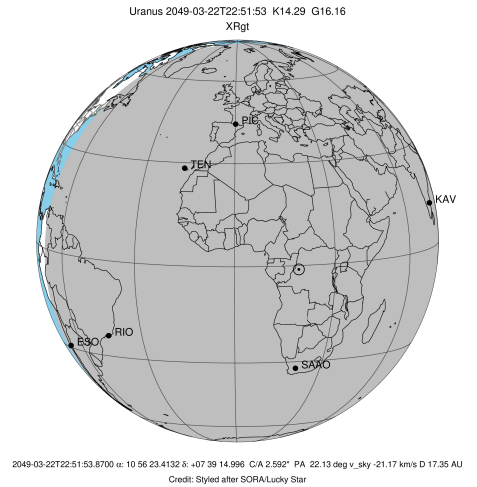


| Ring | I/E | UTC | b? | alt | alt-sun | radius | r-dot | lat-geo | lat-geodetic |
|---------|-----|-------------------------|----|-------|---------|----------|---------|---------|--------------|
| epsilon | I | 2049-03-22T22:47:51.915 | | 14.25 | -29.73 | 51390.31 | -196.15 | | |
| lambda | I | 2049-03-22T22:47:58.944 | | 14.22 | -29.70 | 50026.72 | -192.61 | | |
| delta | I | 2049-03-22T22:48:07.993 | | 14.19 | -29.67 | 48300.35 | -188.84 | | |
| gamma | I | 2049-03-22T22:48:11.549 | | 14.17 | -29.65 | 47631.55 | -187.24 | | |
| eta | I | 2049-03-22T22:48:13.989 | | 14.16 | -29.64 | 47176.13 | -186.11 | | |
| beta | I | 2049-03-22T22:48:22.440 | | 14.13 | -29.61 | 45651.53 | -182.24 | | |
| alpha | I | 2049-03-22T22:48:27.843 | | 14.11 | -29.59 | 44715.42 | -179.66 | | |
| 4 | I | 2049-03-22T22:48:40.293 | | 14.05 | -29.54 | 42601.69 | -173.27 | | |
| 5 | I | 2049-03-22T22:48:41.129 | | 14.05 | -29.53 | 42184.04 | -170.92 | | |
| 6 | I | 2049-03-22T22:48:45.923 | | 14.03 | -29.51 | 41857.88 | -170.15 | | |

No planet occultations

| | | | | | | | | | |
|---------|---|-------------------------|--|-------|--------|----------|--------|--|--|
| 6 | E | 2049-03-22T22:52:53.207 | | 13.03 | -28.52 | 41799.97 | 170.14 | | |
| 5 | E | 2049-03-22T22:52:53.253 | | 13.03 | -28.52 | 42174.19 | 170.90 | | |
| 4 | E | 2049-03-22T22:52:56.705 | | 13.01 | -28.50 | 42603.46 | 173.26 | | |
| alpha | E | 2049-03-22T22:53:08.883 | | 12.96 | -28.46 | 44685.45 | 179.62 | | |
| beta | E | 2049-03-22T22:53:14.745 | | 12.94 | -28.43 | 45680.15 | 182.20 | | |
| eta | E | 2049-03-22T22:53:22.981 | | 12.91 | -28.40 | 47176.11 | 186.05 | | |
| gamma | E | 2049-03-22T22:53:25.386 | | 12.90 | -28.39 | 47624.74 | 187.18 | | |
| delta | E | 2049-03-22T22:53:28.980 | | 12.88 | -28.37 | 48300.35 | 188.77 | | |
| lambda | E | 2049-03-22T22:53:38.035 | | 12.84 | -28.34 | 50026.71 | 192.53 | | |
| epsilon | E | 2049-03-22T22:53:44.964 | | 12.82 | -28.31 | 51369.76 | 196.06 | | |

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2049-03-22T22:54:04.210
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : RIO
 Location : Rio de Janeiro
 Latitude (deg) : -22.89506
 E. Longitude (deg) : 316.77708
 Altitude (km) : 0.033
 Gaia source ID : 3865150097415908096
 2Mass ID (if available) : 10562344+0739151
 ICRS Star Coord at Epoch: 10h 56m 23.41321s +07:39:14.99571s
 RUWE (>1.4 is poor) : 0.99
 K magnitude : 14.288
 G magnitude : 16.160
 RP magnitude : 15.526
 BP magnitude : 16.636
 DUPflag : 0
 Distance (au) : 17.346
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -21.17
 Sun-Target sep (deg) : 160.34
 Sun-Moon sep (deg) : 62.92
 B (ring opening deg) : 5.08
 PA of pole (deg) : 104.67
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.935
 C/A sky separation (km) : 36923.7
 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



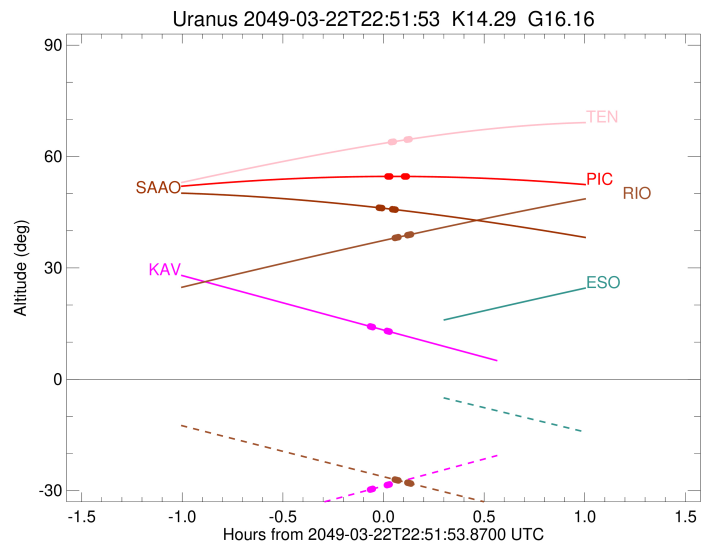
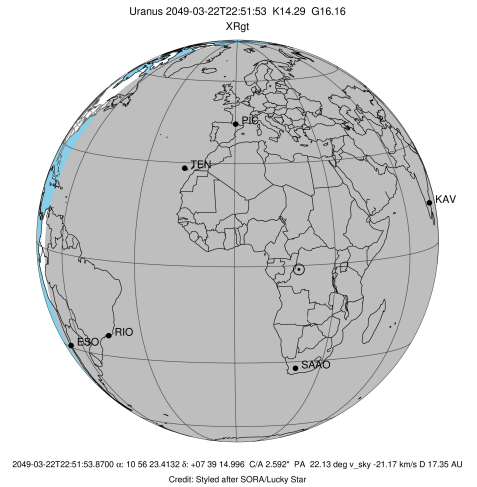
b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

| Ring | I/E | UTC | b? | alt | alt-sun | radius | r-dot | lat-geo | lat-geodetic |
|---------|-----|-------------------------|----|-------|---------|----------|---------|---------|--------------|
| epsilon | I | 2049-03-22T22:55:13.546 | | 38.05 | -27.00 | 51450.21 | -167.16 | | |
| lambda | I | 2049-03-22T22:55:22.246 | | 38.08 | -27.03 | 50026.70 | -160.87 | | |
| delta | I | 2049-03-22T22:55:33.225 | | 38.12 | -27.08 | 48300.35 | -153.42 | | |
| gamma | I | 2049-03-22T22:55:37.630 | | 38.13 | -27.09 | 47631.36 | -150.20 | | |
| eta | I | 2049-03-22T22:55:40.683 | | 38.14 | -27.10 | 47176.11 | -147.90 | | |
| beta | I | 2049-03-22T22:55:51.401 | | 38.18 | -27.14 | 45656.23 | -139.60 | | |
| alpha | I | 2049-03-22T22:55:58.484 | | 38.20 | -27.17 | 44706.69 | -133.56 | | |
| 4 | I | 2049-03-22T22:56:15.485 | | 38.26 | -27.24 | 42610.22 | -117.93 | | |
| 5 | I | 2049-03-22T22:56:17.486 | | 38.27 | -27.24 | 42167.67 | -113.28 | | |
| 6 | I | 2049-03-22T22:56:23.791 | | 38.29 | -27.27 | 41845.32 | -110.34 | | |

No planet occultations

| | | | | | | | | | |
|---------|---|-------------------------|--|-------|--------|----------|--------|--|--|
| 6 | E | 2049-03-22T22:59:00.818 | | 38.81 | -27.86 | 41808.14 | 110.46 | | |
| 5 | E | 2049-03-22T22:59:01.116 | | 38.81 | -27.86 | 42161.21 | 113.40 | | |
| 4 | E | 2049-03-22T22:59:06.367 | | 38.83 | -27.88 | 42611.42 | 118.05 | | |
| alpha | E | 2049-03-22T22:59:23.063 | | 38.88 | -27.94 | 44684.65 | 133.67 | | |
| beta | E | 2049-03-22T22:59:30.631 | | 38.91 | -27.97 | 45677.91 | 139.70 | | |
| eta | E | 2049-03-22T22:59:41.113 | | 38.94 | -28.01 | 47176.13 | 148.00 | | |
| gamma | E | 2049-03-22T22:59:44.130 | | 38.95 | -28.02 | 47625.95 | 150.30 | | |
| delta | E | 2049-03-22T22:59:48.570 | | 38.96 | -28.04 | 48300.36 | 153.52 | | |
| lambda | E | 2049-03-22T22:59:59.547 | | 39.00 | -28.08 | 50026.71 | 160.96 | | |
| epsilon | E | 2049-03-22T23:00:08.141 | | 39.03 | -28.11 | 51432.82 | 167.26 | | |

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2049-03-22T22:49:36.000
 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 : 3865150097415908096
 2Mass ID (if available) : 10562344+0739151
 ICRS Star Coord at Epoch: 10h 56m 23.41321s +07:39:14.99571s
 RUWE (>1.4 is poor) : 0.99
 K magnitude : 14.288
 G magnitude : 16.160
 RP magnitude : 15.526
 BP magnitude : 16.636
 DUPflag : 0
 Distance (au) : 17.346
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -21.17
 Sun-Target sep (deg) : 160.34
 Sun-Moon sep (deg) : 62.61
 B (ring opening deg) : 5.08
 PA of pole (deg) : 104.67
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.835
 C/A sky separation (km) : 35671.2
 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_itrfr93_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 | 2049-03-22T22:50:26.962 | | 46.22 | -58.84 | 51440.45 | -173.55 | | |
| lambda | I | 2049-03-22T22:50:35.265 | | 46.20 | -58.84 | 50026.71 | -167.81 | | |
| delta | I | 2049-03-22T22:50:45.754 | | 46.19 | -58.84 | 48300.34 | -161.15 | | |
| gamma | I | 2049-03-22T22:50:49.941 | | 46.18 | -58.84 | 47631.41 | -158.28 | | |
| eta | I | 2049-03-22T22:50:52.836 | | 46.17 | -58.84 | 47176.11 | -156.24 | | |
| beta | I | 2049-03-22T22:51:02.953 | | 46.16 | -58.83 | 45655.33 | -148.94 | | |
| alpha | I | 2049-03-22T22:51:09.574 | | 46.15 | -58.83 | 44708.28 | -143.71 | | |
| 4 | I | 2049-03-22T22:51:25.254 | | 46.12 | -58.83 | 42608.80 | -130.39 | | |
| 5 | I | 2049-03-22T22:51:26.886 | | 46.12 | -58.83 | 42170.43 | -126.35 | | |
| 6 | I | 2049-03-22T22:51:32.785 | | 46.11 | -58.83 | 41847.93 | -124.01 | | |

No planet occultations

| | | | | | | | | | |
|---------|---|-------------------------|--|-------|--------|----------|--------|--|--|
| 6 | E | 2049-03-22T22:54:28.574 | | 45.80 | -58.78 | 41806.24 | 124.09 | | |
| 5 | E | 2049-03-22T22:54:28.694 | | 45.80 | -58.78 | 42163.28 | 126.44 | | |
| 4 | E | 2049-03-22T22:54:33.460 | | 45.79 | -58.78 | 42610.12 | 130.47 | | |
| alpha | E | 2049-03-22T22:54:48.845 | | 45.76 | -58.77 | 44684.61 | 143.77 | | |
| beta | E | 2049-03-22T22:54:55.948 | | 45.75 | -58.77 | 45678.42 | 148.99 | | |
| eta | E | 2049-03-22T22:55:05.836 | | 45.73 | -58.76 | 47176.12 | 156.28 | | |
| gamma | E | 2049-03-22T22:55:08.695 | | 45.73 | -58.76 | 47625.72 | 158.32 | | |
| delta | E | 2049-03-22T22:55:12.919 | | 45.72 | -58.76 | 48300.36 | 161.19 | | |
| lambda | E | 2049-03-22T22:55:23.411 | | 45.70 | -58.76 | 50026.71 | 167.84 | | |
| epsilon | E | 2049-03-22T22:55:31.611 | | 45.69 | -58.75 | 51422.32 | 173.56 | | |