

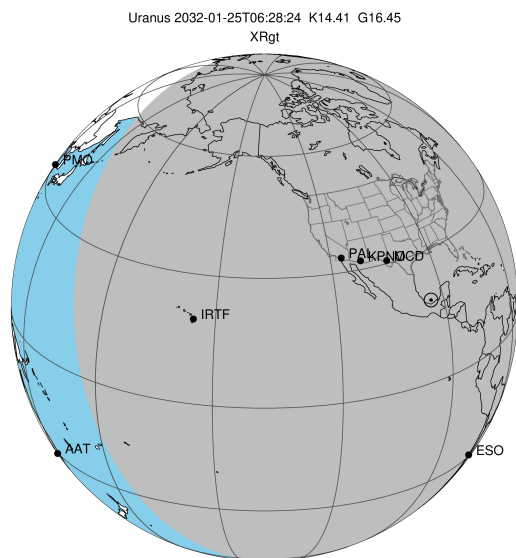
target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2032-01-25T06:28:24.880
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3416185105698145024
 2Mass ID (if available) : 05304415+2325355

ICRS Star Coord at Epoch: 05h 30m 44.15341s +23:25:35.52649s

RUWE (>1.4 is poor) : 0.92
 K magnitude : 14.407
 G magnitude : 16.452
 RP magnitude : 15.768
 BP magnitude : 16.959
 DUPflag : 0
 Distance (au) : 18.327
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -16.10
 Sun-Target sep (deg) : 138.91
 Sun-Moon sep (deg) : 16.95
 B (ring opening deg) : 80.32
 PA of pole (deg) : 32.51

a(km) ring

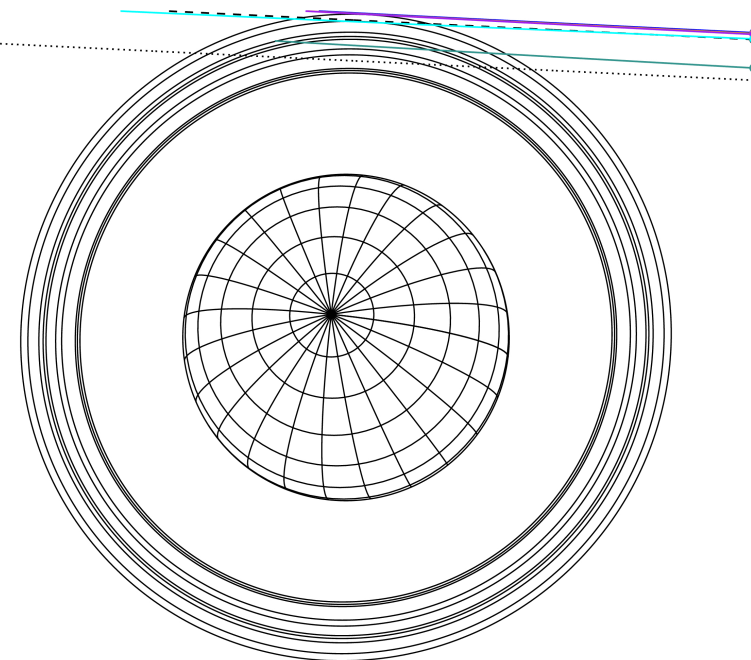
- 1 41837.2 6
- 2 42235.0 5
- 3 42571.2 4
- 4 44718.5 alpha
- 5 45661.1 beta
- 6 47176.1 eta
- 7 47626.3 gamma
- 8 48300.3 delta
- 9 50026.7 lambda
- 10 51149.4 epsilon



2032-01-25T06:28:24.8800 ra: 05 30 44.1534 s: +23 25 35.526 C/A 3.746" PA 177.22 deg v_sky -16.10 km/s D 18.33 AU
 Credit: Styled after SORA/Lucky Star

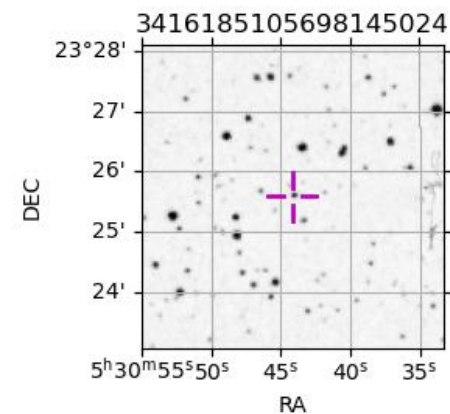
Earth
 PAL
 KPNO
 MCD
 IRTF
 ESO

Uranus 2032-01-25T06:28:24 K14.41 G16.45 XRgt



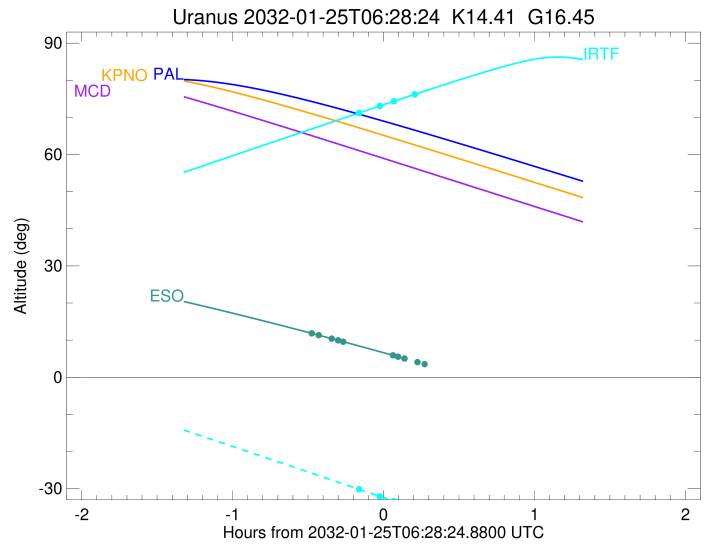
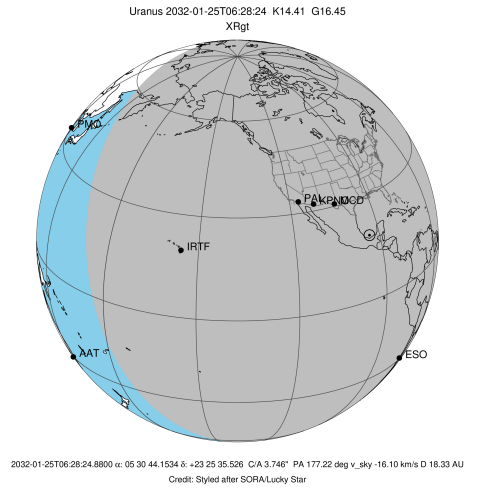
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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	++		++	JAN 25 06:18 - JAN 25 06:40	PnnRie
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	+++++		+++	JAN 25 05:59 - JAN 25 06:36	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



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target                : Uranus
target radius (km)   : 25559.00
C/A epoch            : 2032-01-25T06:30:26.980
Event type          : XRgt
: No Uranus occs
: Ring occs: geocentric, topocentric
Observer code       : IRTF
Location            : Mauna Kea/IRTF
Latitude (deg)      : 19.82622
E. Longitude (deg)  : 204.52800
Altitude (km)       : 4.168
Gaia source ID      : 3416185105698145024
2Mass ID (if available) : 05304415+2325355
ICRS Star Coord at Epoch: 05h 30m 44.15341s +23:25:35.52649s
RUWE (>1.4 is poor) : 0.92
K magnitude          : 14.407
G magnitude          : 16.452
RP magnitude         : 15.768
BP magnitude         : 16.959
DUPflag             : 0
Distance (au)       : 18.327
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : -16.10
Sun-Target sep (deg) : 138.91
Sun-Moon sep (deg)  : 17.44
B (ring opening deg) : 80.32
PA of pole (deg)    : 32.51
Pole direction: RA (deg): 257.31100
Dec (deg): -15.17500
C/A sky separation (") : 3.722
C/A sky separation (km) : 49471.5
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
    
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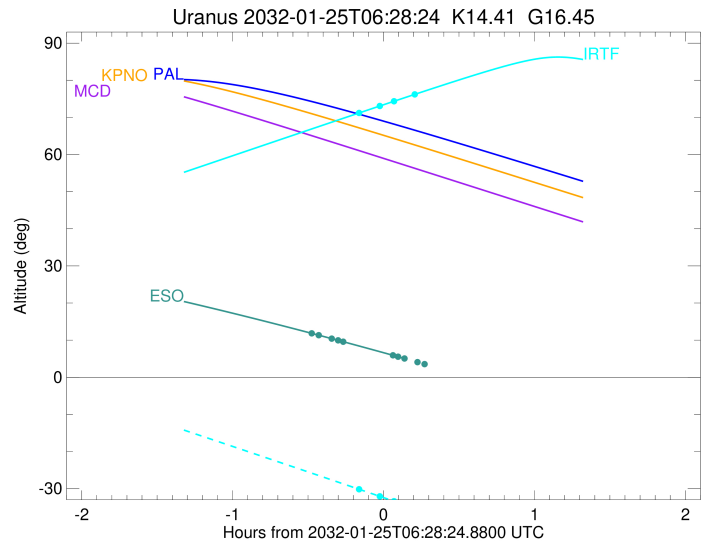
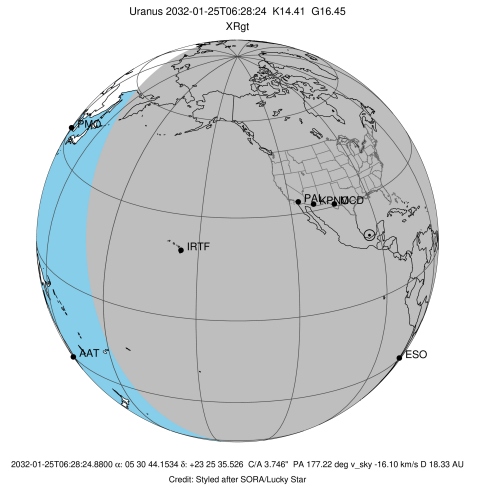


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2032-01-25T06:18:10.510		71.08	-30.05	51281.21	-3.62		
lambda	I	2032-01-25T06:27:12.852		73.13	-32.14	50026.71	-0.85		

No planet occultations

lambda	E	2032-01-25T06:32:20.005		74.29	-33.32	50026.71	0.85		
epsilon	E	2032-01-25T06:40:33.653		76.15	-35.23	51105.55	3.62		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2032-01-25T06:22:55.240
 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 : 3416185105698145024
 2Mass ID (if available) : 05304415+2325355
 ICRS Star Coord at Epoch: 05h 30m 44.15341s +23:25:35.52649s
 RUWE (>1.4 is poor) : 0.92
 K magnitude : 14.407
 G magnitude : 16.452
 RP magnitude : 15.768
 BP magnitude : 16.959
 DUPflag : 0
 Distance (au) : 18.327
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -16.10
 Sun-Target sep (deg) : 138.91
 Sun-Moon sep (deg) : 16.20
 B (ring opening deg) : 80.32
 PA of pole (deg) : 32.51
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.441
 C/A sky separation (km) : 45734.2
 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_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	2032-01-25T05:59:23.949		11.92	-39.41	51368.47	-7.09		
lambda	I	2032-01-25T06:02:42.716		11.33	-39.16	50026.71	-6.31		
delta	I	2032-01-25T06:07:52.863		10.40	-38.74	48300.35	-4.80		
gamma	I	2032-01-25T06:10:25.469		9.94	-38.53	47627.80	-4.01		
eta	I	2032-01-25T06:12:28.265		9.56	-38.36	47176.12	-3.35		

No planet occultations

eta	E	2032-01-25T06:32:06.060		5.93	-36.46	47176.12	3.34		
gamma	E	2032-01-25T06:34:09.721		5.55	-36.24	47630.03	4.00		
delta	E	2032-01-25T06:36:42.235		5.07	-35.97	48300.35	4.79		
lambda	E	2032-01-25T06:41:53.604		4.08x	-35.39	50026.71	6.28		
epsilon	E	2032-01-25T06:44:23.998		3.61x	-35.10	51020.91	7.05		