

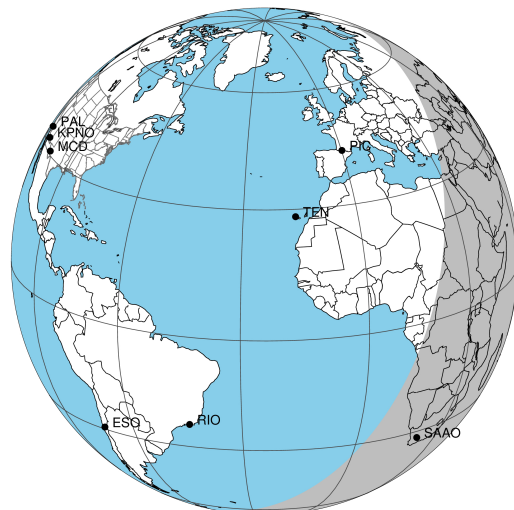
target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2042-06-14T16:56:23.620
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 660207705429254912
 2Mass ID (if available) : 08483771+1828149

Uranus 2042-06-14T16:56:23 K14.55 G15.92 PgtRgt

ICRS Star Coord at Epoch: 08h 48m 37.71450s +18:28:14.71939s

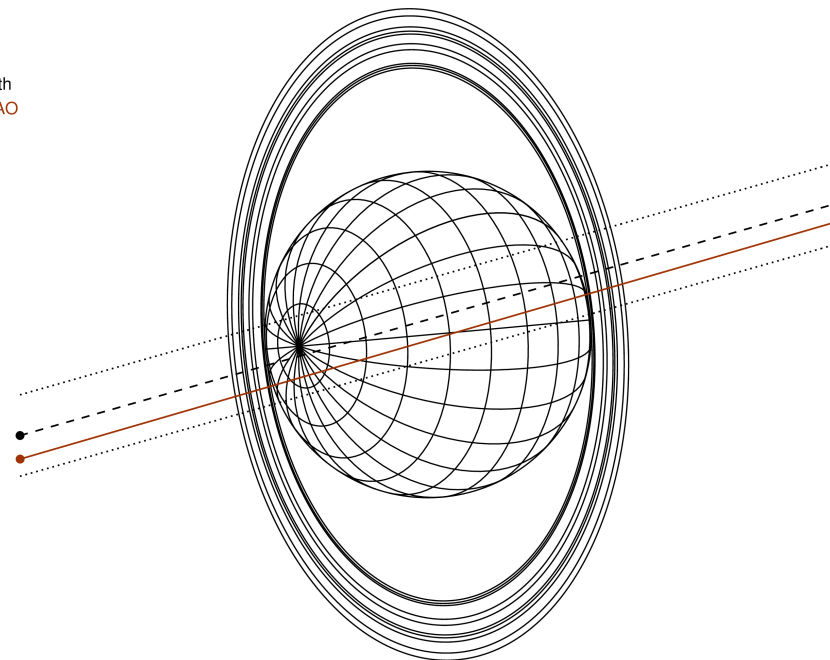
RUWE (>1.4 is poor) : 0.99
 K magnitude : 14.552
 G magnitude : 15.920
 RP magnitude : 15.410
 BP magnitude : 16.263
 DUPflag : 0
 Distance (au) : 19.154
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 27.16
 Sun-Target sep (deg) : 46.35
 Sun-Moon sep (deg) : 87.61
 B (ring opening deg) : 37.59
 PA of pole (deg) : 95.23

Uranus 2042-06-14T16:56:23 K14.55 G15.92
 PgtRgt



2042-06-14T16:56:23.6200 ex: 08 48 37.7145 8: +18 28 14.719 C/A 0.171" PA 195.85 deg v_sky +27.16 km/s D 19.15 AU
 Credit: Styled after SORA/Lucky Star

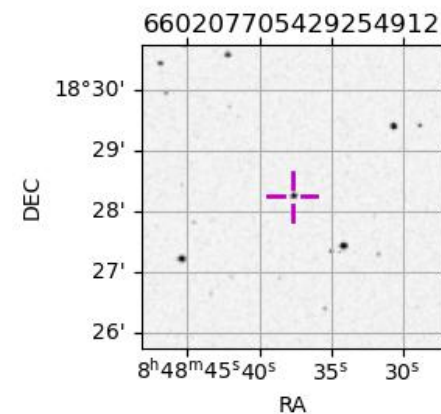
Earth
 SAAO



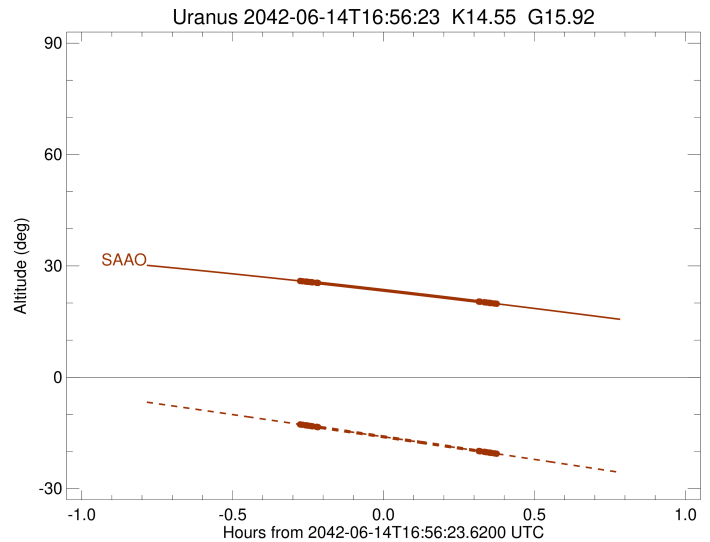
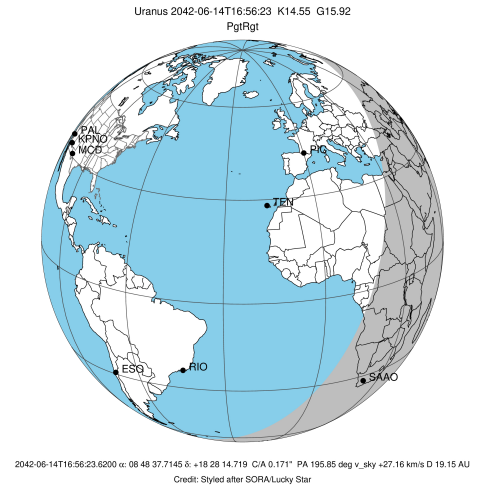
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon

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	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					PnnRnn
AAT	Siding Spring (AAT)	-31.3	149.1					PnnRnn
SAAO	So. Afr. Astro. Obs.	-32.4	20.8	+++++	+	+++++	JUN 14 16:39 - JUN 14 17:18	PieRie
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2042-06-14T16:59:26.000
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : 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 : 660207705429254912
 2Mass ID (if available) : 08483771+1828149
 ICRS Star Coord at Epoch: 08h 48m 37.71450s +18:28:14.71939s
 RUWE (>1.4 is poor) : 0.99
 K magnitude : 14.552
 G magnitude : 15.920
 RP magnitude : 15.410
 BP magnitude : 16.263
 DUPflag : 0
 Distance (au) : 19.154
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 27.16
 Sun-Target sep (deg) : 46.35
 Sun-Moon sep (deg) : 88.03
 B (ring opening deg) : 37.59
 PA of pole (deg) : 95.23
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 0.065
 C/A sky separation (km) : 908.5
 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	2042-06-14T16:39:43.323		25.96	-12.69	51448.62	-43.55		
lambda	I	2042-06-14T16:40:15.973		25.88	-12.80	50026.71	-43.55		
delta	I	2042-06-14T16:40:55.615		25.78	-12.93	48300.35	-43.55		
gamma	I	2042-06-14T16:41:11.174		25.74	-12.98	47622.76	-43.55		
eta	I	2042-06-14T16:41:21.431		25.71	-13.02	47176.12	-43.55		
beta	I	2042-06-14T16:41:55.938		25.63	-13.13	45677.29	-43.55		
alpha	I	2042-06-14T16:42:18.755		25.57	-13.21	44695.45	-43.56		
4	I	2042-06-14T16:43:08.234		25.45	-13.37	42536.21	-43.55		
5	I	2042-06-14T16:43:15.012		25.43	-13.39	42177.79	-43.49		
6	I	2042-06-14T16:43:25.136		25.41	-13.43	41798.09	-43.55		
Uranus	I	2042-06-14T16:43:44.604		25.36	-13.49	25353.40		50.53	51.81
Uranus	E	2042-06-14T17:15:06.341		20.43	-19.82	25347.67		-51.52	-52.79
6	E	2042-06-14T17:15:19.592		20.39	-19.87	41875.61	43.63		
5	E	2042-06-14T17:15:30.663		20.36	-19.90	42294.59	43.57		
4	E	2042-06-14T17:15:36.349		20.34	-19.92	42607.49	43.63		
alpha	E	2042-06-14T17:16:25.160		20.21	-20.09	44740.49	43.64		
beta	E	2042-06-14T17:16:46.171		20.15	-20.16	45645.50	43.64		
eta	E	2042-06-14T17:17:21.341		20.06	-20.28	47176.12	43.64		
gamma	E	2042-06-14T17:17:31.740		20.03	-20.31	47629.93	43.64		
delta	E	2042-06-14T17:17:47.103		19.98	-20.37	48300.35	43.64		
lambda	E	2042-06-14T17:18:26.661		19.87	-20.50	50026.71	43.64		
epsilon	E	2042-06-14T17:18:45.240		19.82	-20.56	50837.62	43.64		