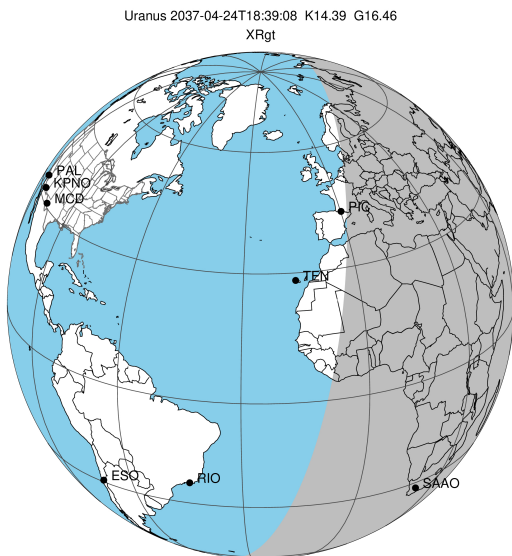


target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2037-04-24T18:39:08.680
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3368255469699000832
 2Mass ID (if available) : 07072050+2258037

ICRS Star Coord at Epoch: 07h 07m 20.50501s +22:58:03.70385s

RUWE (>1.4 is poor) : 0.98
 K magnitude : 14.387
 G magnitude : 16.463
 RP magnitude : 15.830
 BP magnitude : 16.959
 DUPflag : 0
 Distance (au) : 19.049
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 16.13
 Sun-Target sep (deg) : 71.06
 Sun-Moon sep (deg) : 40.51
 B (ring opening deg) : 61.09
 PA of pole (deg) : 79.67

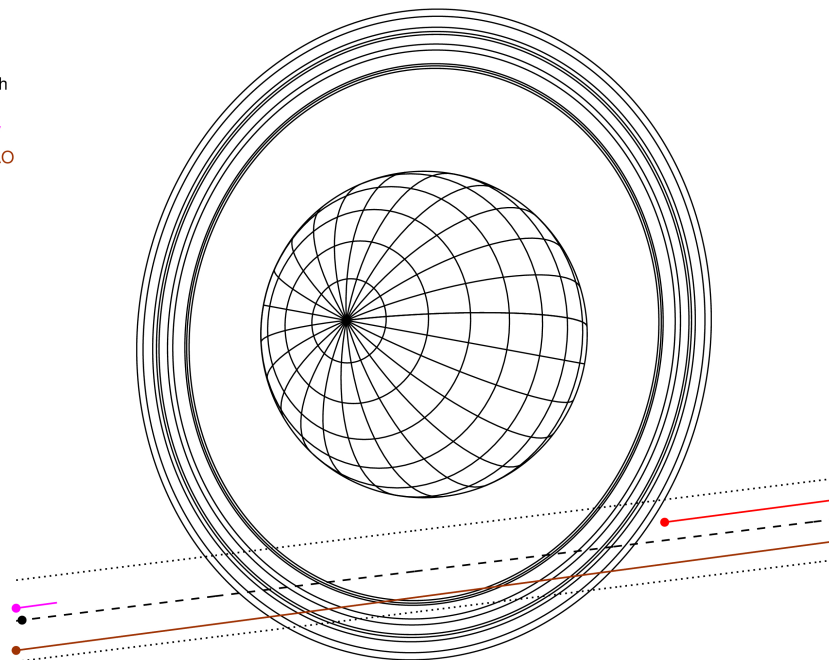
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2037-04-24T18:39:08.6800 α: 07 07 20.5050 s δ: +22 58 03.704 C/A 2.643° PA 7.08 deg v_sky +16.13 km/s D 19.05 AU
 Credit: Styled after SORA/Lucky Star

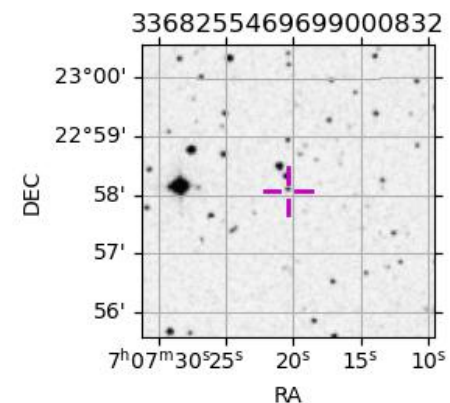
Uranus 2037-04-24T18:39:08 K14.39 G16.46 XRgt

Earth
 PIC
 KAV
 SAAO

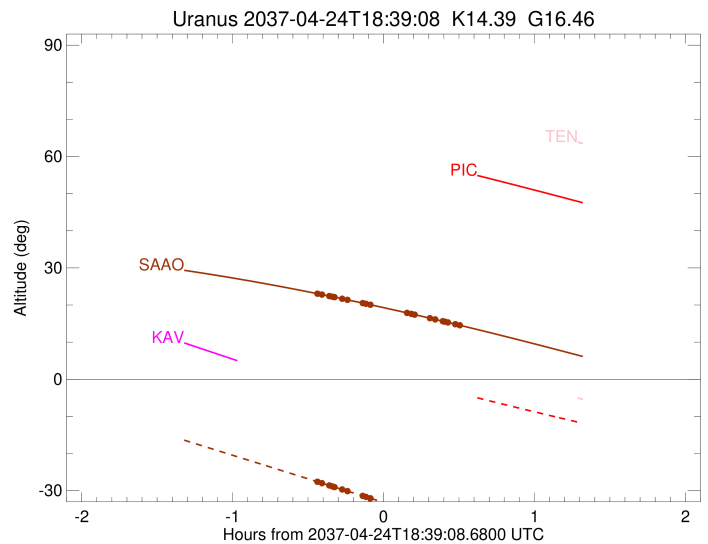
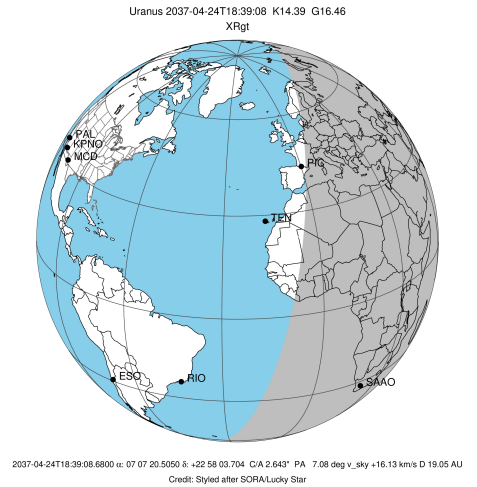


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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	+++++		+++++	APR 24 18:13 - APR 24 19:08	PnnRie
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2037-04-24T18:44:12.500
 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 : 3368255469699000832
 2Mass ID (if available) : 07072050+2258037
 ICRS Star Coord at Epoch: 07h 07m 20.50501s +22:58:03.70385s
 RUWE (>1.4 is poor) : 0.98
 K magnitude : 14.387
 G magnitude : 16.463
 RP magnitude : 15.830
 BP magnitude : 16.959
 DUPflag : 0
 Distance (au) : 19.049
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 16.13
 Sun-Target sep (deg) : 71.06
 Sun-Moon sep (deg) : 40.23
 B (ring opening deg) : 61.09
 PA of pole (deg) : 79.67
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.942
 C/A sky separation (km) : 40639.9
 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	2037-04-24T18:13:21.431		22.99	-27.71	50861.37	-10.45		
lambda	I	2037-04-24T18:14:41.995		22.81	-27.99	50026.71	-10.19		
delta	I	2037-04-24T18:17:38.217		22.41	-28.61	48300.35	-9.39		
gamma	I	2037-04-24T18:18:50.863		22.24	-28.87	47631.09	-9.03		
eta	I	2037-04-24T18:19:41.954		22.12	-29.05	47176.12	-8.77		
beta	I	2037-04-24T18:22:46.055		21.69	-29.70	45650.78	-7.78		
alpha	I	2037-04-24T18:24:47.322		21.40	-30.13	44750.53	-7.07		
4	I	2037-04-24T18:31:03.783		20.50	-31.45	42541.85	-4.59		
5	I	2037-04-24T18:32:12.578		20.33	-31.69	42241.99	-4.15		
6	I	2037-04-24T18:33:49.188		20.09	-32.03	41877.27	-3.41		

No planet occultations

6	E	2037-04-24T18:48:35.850		17.86	-35.15	41869.04	3.41		
5	E	2037-04-24T18:50:23.401		17.59	-35.52	42277.22	4.15		
4	E	2037-04-24T18:51:20.226		17.44	-35.72	42528.63	4.60		
alpha	E	2037-04-24T18:57:37.512		16.45	-37.04	44748.67	7.10		
beta	E	2037-04-24T18:59:40.350		16.13	-37.47	45668.17	7.81		
eta	E	2037-04-24T19:02:41.356		15.65	-38.10	47176.12	8.81		
gamma	E	2037-04-24T19:03:32.162		15.51	-38.28	47630.58	9.08		
delta	E	2037-04-24T19:04:44.523		15.32	-38.53	48300.35	9.43		
lambda	E	2037-04-24T19:07:39.842		14.84	-39.14	50026.71	10.25		
epsilon	E	2037-04-24T19:08:52.898		14.65	-39.40	50786.72	10.51		