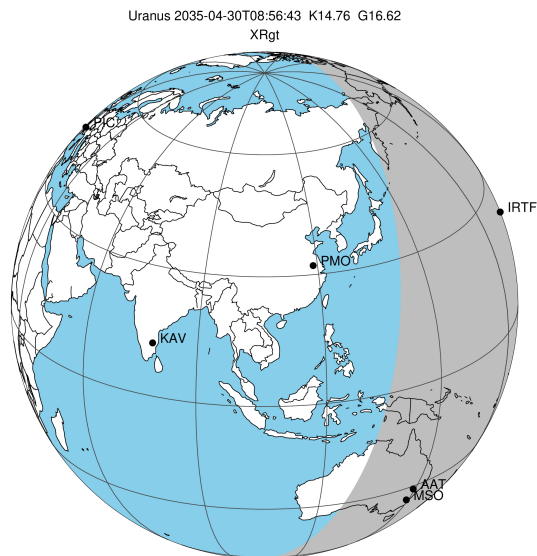


target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2035-04-30T08:56:43.590
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3382609589702340992
 2Mass ID (if available) : 06301457+2334474

ICRS Star Coord at Epoch: 06h 30m 14.57122s +23:34:47.42848s

RUWE (>1.4 is poor) : 1.05
 K magnitude : 14.756
 G magnitude : 16.619
 RP magnitude : 16.012
 BP magnitude : 17.047
 DUPflag : 0
 Distance (au) : 19.390
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 22.38
 Sun-Target sep (deg) : 57.55
 Sun-Moon sep (deg) : 151.08
 B (ring opening deg) : 69.16
 PA of pole (deg) : 69.89

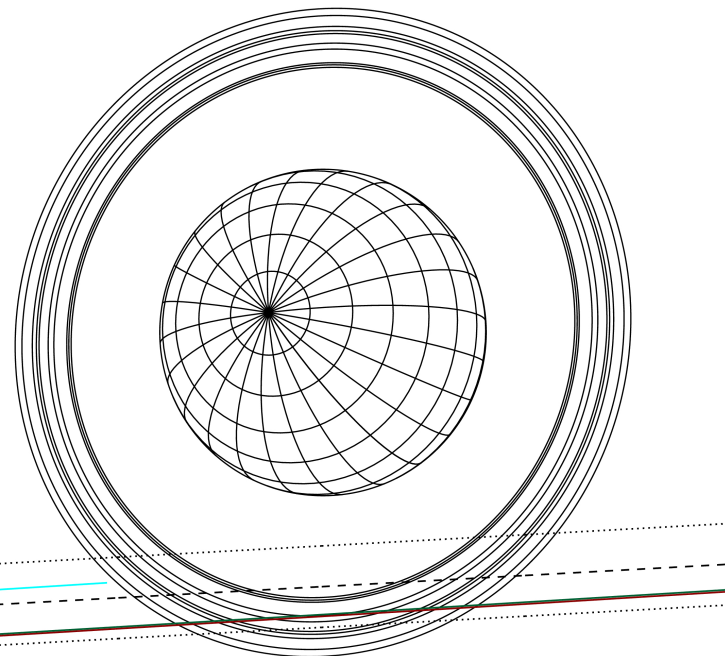
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2035-04-30T08:56:43.5900 α: 06 30 14.5712 δ: +23 34 47.428 C/A 2.818° PA 3.15 deg v_sky +22.38 km/s D 19.39 AU
 Credit: Styled after SORA/Lucky Star

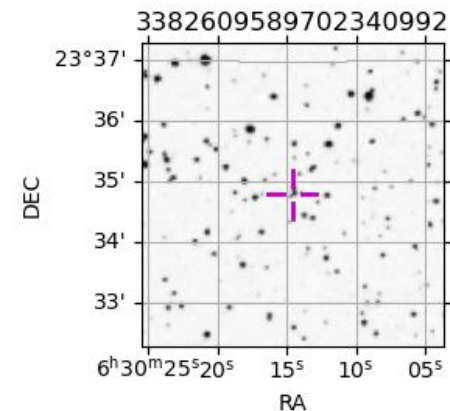
Uranus 2035-04-30T08:56:43 K14.76 G16.62 XRgt

Earth
 IRTF
 AAT
 MSO

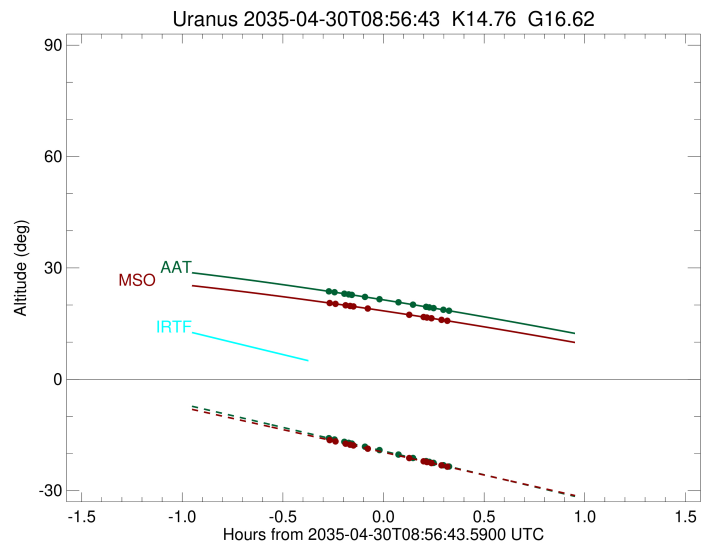
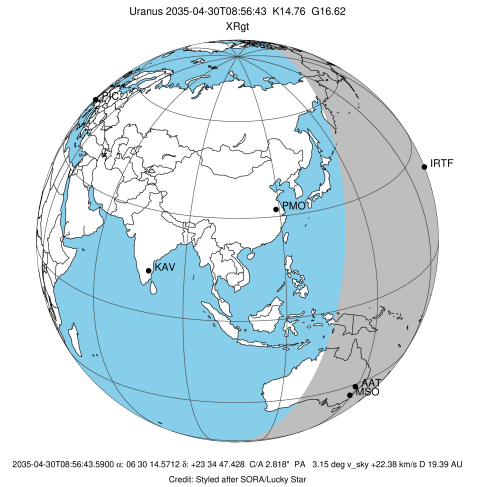


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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	++++++		++++++	APR 30 08:40 - APR 30 09:16	PnnRie
SAAO	So. Afr. Astro. Obs.	-32.4	20.8					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0	++++++		++++++	APR 30 08:40 - APR 30 09:15	PnnRie



target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2035-04-30T08:59:56.360
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : AAT
 Location : Siding Spring (AAT)
 Latitude (deg) : -31.27703
 E. Longitude (deg) : 149.06608
 Altitude (km) : 1.164
 Gaia source ID : 3382609589702340992
 2Mass ID (if available) : 06301457+2334474
 ICRS Star Coord at Epoch: 06h 30m 14.57122s +23:34:47.42848s
 RUWE (>1.4 is poor) : 1.05
 K magnitude : 14.756
 G magnitude : 16.619
 RP magnitude : 16.012
 BP magnitude : 17.047
 DUPflag : 0
 Distance (au) : 19.390
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 22.38
 Sun-Target sep (deg) : 57.55
 Sun-Moon sep (deg) : 150.68
 B (ring opening deg) : 69.16
 PA of pole (deg) : 69.89
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.135
 C/A sky separation (km) : 44087.4
 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



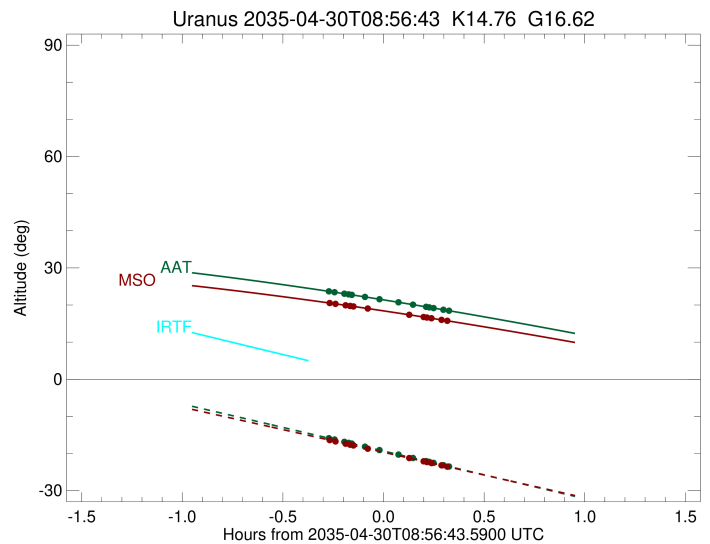
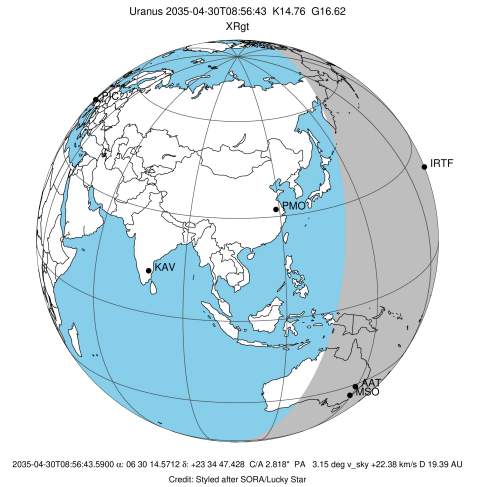
b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2035-04-30T08:40:05.227		23.73	-15.80	51409.90	-11.53		
lambda	I	2035-04-30T08:42:09.291		23.45	-16.24	50026.71	-10.63		
delta	I	2035-04-30T08:45:04.753		23.04	-16.86	48300.35	-9.02		
gamma	I	2035-04-30T08:46:23.390		22.86	-17.14	47620.98	-8.25		
eta	I	2035-04-30T08:47:19.229		22.73	-17.33	47176.12	-7.68		
beta	I	2035-04-30T08:51:14.346		22.18	-18.17	45666.29	-5.13		
alpha	I	2035-04-30T08:55:55.363		21.51	-19.16	44690.93	-1.78		

No planet occultations

alpha	E	2035-04-30T09:00:46.233		20.80	-20.20	44688.27	1.78		
beta	E	2035-04-30T09:05:30.483		20.10	-21.21	45674.11	5.14		
eta	E	2035-04-30T09:09:23.771		19.51	-22.04	47176.12	7.69		
gamma	E	2035-04-30T09:10:19.645		19.37	-22.24	47621.98	8.26		
delta	E	2035-04-30T09:11:38.025		19.17	-22.52	48300.35	9.04		
lambda	E	2035-04-30T09:14:33.135		18.73	-23.14	50026.71	10.65		
epsilon	E	2035-04-30T09:16:02.779		18.50	-23.46	51015.78	11.56		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2035-04-30T08:59:48.710
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : MSO
 Location : Mt. Stromlo Observatory
 Latitude (deg) : -35.32000
 E. Longitude (deg) : 149.00833
 Altitude (km) : 0.770
 Gaia source ID : 3382609589702340992
 2Mass ID (if available) : 06301457+2334474
 ICRS Star Coord at Epoch: 06h 30m 14.57122s +23:34:47.42848s
 RUWE (>1.4 is poor) : 1.05
 K magnitude : 14.756
 G magnitude : 16.619
 RP magnitude : 16.012
 BP magnitude : 17.047
 DUPflag : 0
 Distance (au) : 19.390
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 22.38
 Sun-Target sep (deg) : 57.55
 Sun-Moon sep (deg) : 150.67
 B (ring opening deg) : 69.16
 PA of pole (deg) : 69.89
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.155
 C/A sky separation (km) : 44372.2
 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	2035-04-30T08:40:19.637		20.58	-16.32	51406.38	-11.31		
lambda	I	2035-04-30T08:42:26.135		20.31	-16.75	50026.71	-10.37		
delta	I	2035-04-30T08:45:27.048		19.92	-17.36	48300.35	-8.69		
gamma	I	2035-04-30T08:46:49.068		19.74	-17.64	47620.97	-7.87		
eta	I	2035-04-30T08:47:47.842		19.62	-17.84	47176.12	-7.26		
beta	I	2035-04-30T08:52:05.190		19.05	-18.71	45666.88	-4.43		

No planet occultations

beta	E	2035-04-30T09:04:23.375		17.37	-21.22	45673.62	4.43		
eta	E	2035-04-30T09:08:38.907		16.77	-22.09	47176.12	7.27		
gamma	E	2035-04-30T09:09:37.719		16.63	-22.29	47621.93	7.88		
delta	E	2035-04-30T09:10:59.488		16.44	-22.57	48300.35	8.70		
lambda	E	2035-04-30T09:14:00.063		16.01	-23.19	50026.71	10.39		
epsilon	E	2035-04-30T09:15:32.173		15.78	-23.50	51020.29	11.33		