

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-05T19:50:49.620
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3425396431863062400
 2Mass ID (if available) : 06080713+2341517

ICRS Star Coord at Epoch: 06h 08m 07.12945s +23:41:51.71525s

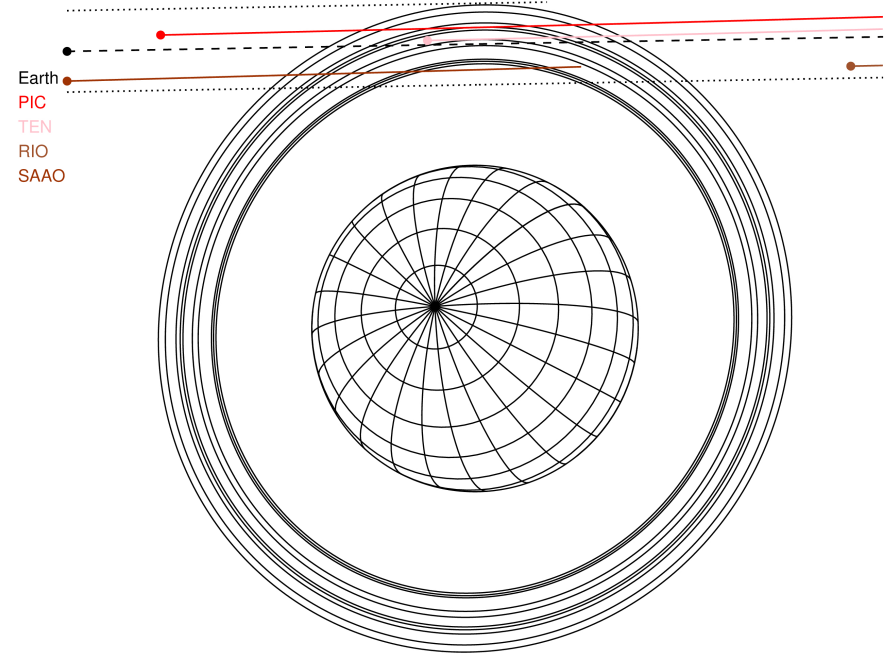
RUWE (>1.4 is poor) : 0.93
 K magnitude : 14.971
 G magnitude : 17.247
 RP magnitude : 16.515
 BP magnitude : 17.849
 DUPflag : 0
 Distance (au) : 19.149
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 13.46
 Sun-Target sep (deg) : 76.23
 Sun-Moon sep (deg) : 125.67
 B (ring opening deg) : 73.73
 PA of pole (deg) : 61.08

#	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



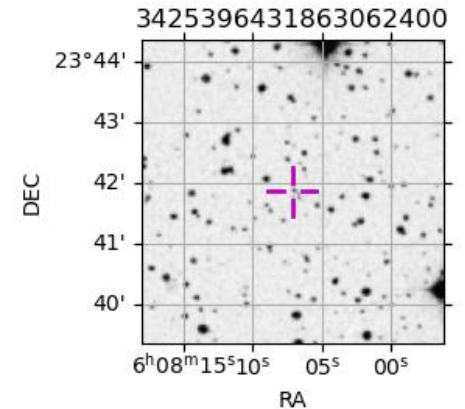
2034-04-05T19:50:49.6200 ex: 06 08 07.1295 s: +23 41 51.715 C/A 3.214" PA 181.02 deg v_sky +13.46 km/s D 19.15 AU
 Credit: Styled after SORA/Lucky Star

Uranus 2034-04-05T19:50:49 K14.97 G17.25 XRgt

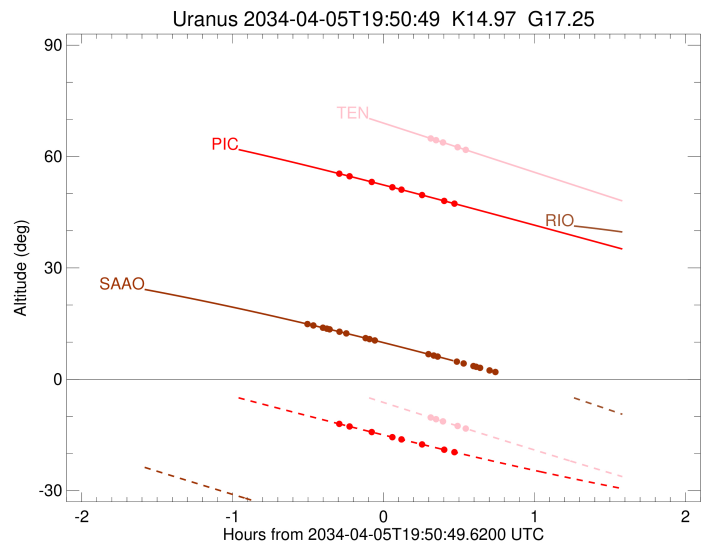
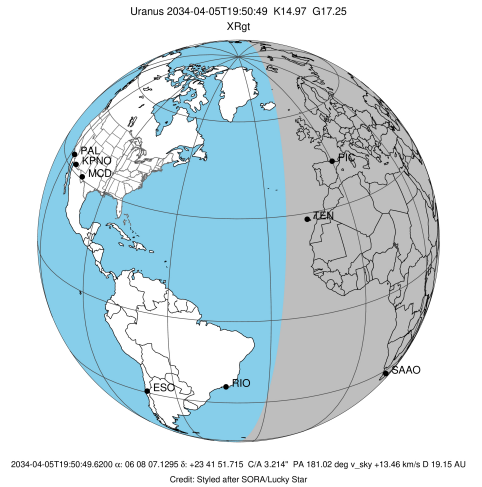


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1	++++		++++	APR 05 19:33 - APR 05 20:19	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			+++++	APR 05 20:09 - APR 05 20:24	PnnRne
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 05 19:20 - APR 05 20:12	PnnRie
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-05T19:54:05.460
 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 : 3425396431863062400
 2Mass ID (if available) : 06080713+2341517
 ICRS Star Coord at Epoch: 06h 08m 07.12945s +23:41:51.71525s
 RUWE (>1.4 is poor) : 0.93
 K magnitude : 14.971
 G magnitude : 17.247
 RP magnitude : 16.515
 BP magnitude : 17.849
 DUPflag : 0
 Distance (au) : 19.149
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 13.46
 Sun-Target sep (deg) : 76.23
 Sun-Moon sep (deg) : 126.51
 B (ring opening deg) : 73.73
 PA of pole (deg) : 61.08
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.393
 C/A sky separation (km) : 47123.6
 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



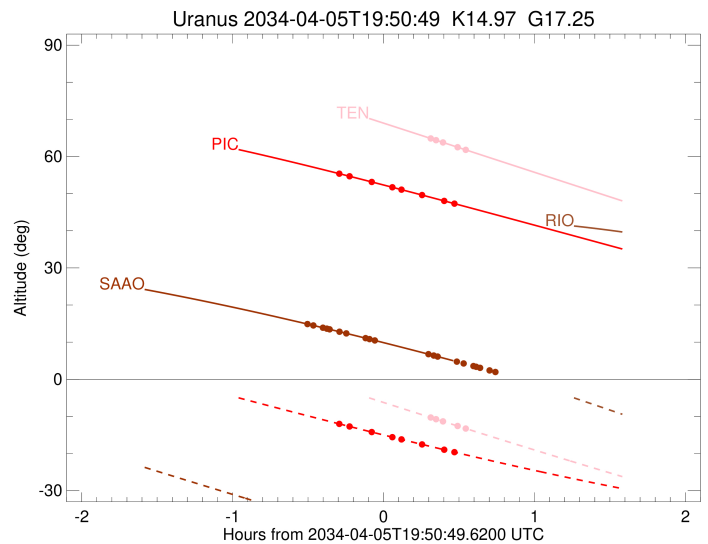
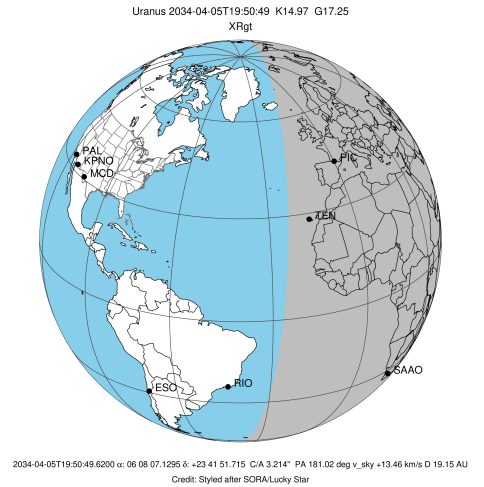
b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b? alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-04-05T19:33:22.157	55.36	-12.04	51129.74	-5.05		
lambda	I	2034-04-05T19:37:23.774	54.67	-12.73	50026.71	-4.17		
delta	I	2034-04-05T19:46:16.390	53.14	-14.24	48300.35	-2.28		
gamma	I	2034-04-05T19:54:50.182	51.63	-15.68	47631.26	-0.31		

No planet occultations

gamma	E	2034-04-05T19:57:29.472	51.16	-16.12	47631.17	0.31		
delta	E	2034-04-05T20:06:02.993	49.64	-17.53	48300.35	2.28		
lambda	E	2034-04-05T20:14:54.124	48.06	-18.97	50026.71	4.18		
epsilon	E	2034-04-05T20:19:51.097	47.16	-19.77	51414.95	5.08		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-05T19:53:15.940
 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 : 3425396431863062400
 2Mass ID (if available) : 06080713+2341517
 ICRS Star Coord at Epoch: 06h 08m 07.12945s +23:41:51.71525s
 RUWE (>1.4 is poor) : 0.93
 K magnitude : 14.971
 G magnitude : 17.247
 RP magnitude : 16.515
 BP magnitude : 17.849
 DUPflag : 0
 Distance (au) : 19.149
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 13.46
 Sun-Target sep (deg) : 76.23
 Sun-Moon sep (deg) : 126.54
 B (ring opening deg) : 73.73
 PA of pole (deg) : 61.08
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 3.259
 C/A sky separation (km) : 45260.8
 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



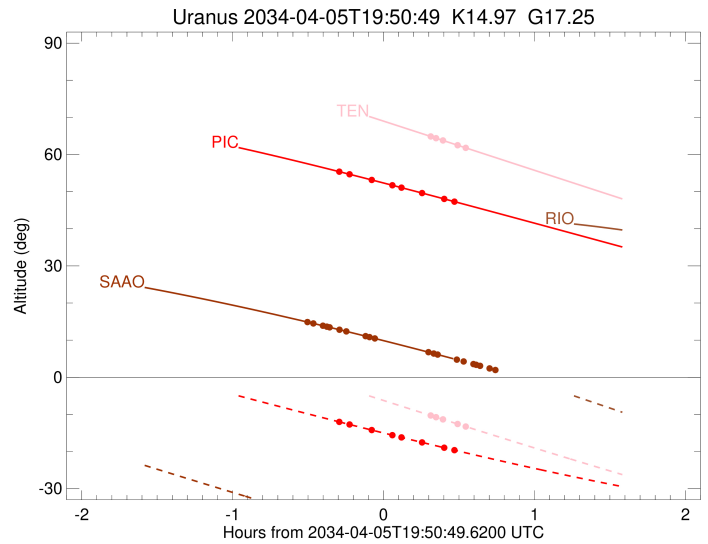
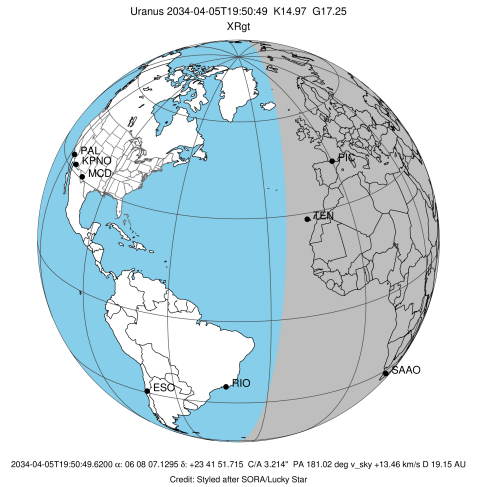
b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b? alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-04-05T19:27:08.731	74.16	-1.10x	51094.33	-6.11		
lambda	I	2034-04-05T19:30:14.680	73.49	-1.77x	50026.71	-5.47		
delta	I	2034-04-05T19:36:06.160	72.22	-3.05x	48300.35	-4.34		
gamma	I	2034-04-05T19:38:51.060	71.62	-3.65x	47631.55	-3.77		
eta	I	2034-04-05T19:40:59.690	71.15	-4.12x	47176.12	-3.31		

No planet occultations

eta	E	2034-04-05T20:09:31.689	64.89	-10.28	47176.12	3.32		
gamma	E	2034-04-05T20:11:39.709	64.41	-10.74	47630.43	3.78		
delta	E	2034-04-05T20:14:24.437	63.81	-11.33	48300.35	4.35		
lambda	E	2034-04-05T20:20:14.680	62.52	-12.58	50026.71	5.49		
epsilon	E	2034-04-05T20:24:16.588	61.63	-13.44	51441.61	6.13		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-05T19:56:16.040
 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 : 3425396431863062400
 2Mass ID (if available) : 06080713+2341517
 ICRS Star Coord at Epoch: 06h 08m 07.12945s +23:41:51.71525s
 RUWE (>1.4 is poor) : 0.93
 K magnitude : 14.971
 G magnitude : 17.247
 RP magnitude : 16.515
 BP magnitude : 17.849
 DUPflag : 0
 Distance (au) : 19.149
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 13.46
 Sun-Target sep (deg) : 76.23
 Sun-Moon sep (deg) : 126.17
 B (ring opening deg) : 73.73
 PA of pole (deg) : 61.08
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.916
 C/A sky separation (km) : 40492.7
 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_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	2034-04-05T19:20:53.367		14.83	-37.14	51022.11	-8.22		
lambda	I	2034-04-05T19:22:57.930		14.49	-37.55	50026.71	-7.84		
delta	I	2034-04-05T19:26:46.672		13.88	-38.32	48300.35	-7.24		
gamma	I	2034-04-05T19:28:20.712		13.62	-38.63	47631.51	-6.98		
eta	I	2034-04-05T19:29:26.872		13.44	-38.85	47176.12	-6.79		
beta	I	2034-04-05T19:33:25.483		12.79	-39.64	45644.75	-6.04		
alpha	I	2034-04-05T19:36:08.974		12.34	-40.18	44699.41	-5.50		
4	I	2034-04-05T19:43:33.927		11.10	-41.64	42616.55	-3.81		
5	I	2034-04-05T19:45:41.212		10.74	-42.05	42174.48	-3.28		
6	I	2034-04-05T19:47:24.838		10.45	-42.39	41857.00	-2.87		

No planet occultations

6	E	2034-04-05T20:08:46.094		6.75	-46.45	41870.71	2.88		
5	E	2034-04-05T20:10:19.041		6.47	-46.74	42156.94	3.29		
4	E	2034-04-05T20:12:27.348		6.09	-47.14	42608.76	3.83		
alpha	E	2034-04-05T20:19:57.781		4.75x	-48.52	44726.29	5.53		
beta	E	2034-04-05T20:22:35.181		4.28x	-48.99	45641.96	6.08		
eta	E	2034-04-05T20:26:32.392		3.56x	-49.70	47176.12	6.84		
gamma	E	2034-04-05T20:27:37.739		3.36x	-49.89	47629.49	7.04		
delta	E	2034-04-05T20:29:11.286		3.08x	-50.17	48300.35	7.31		
lambda	E	2034-04-05T20:32:57.965		2.39x	-50.83	50026.71	7.92		
epsilon	E	2034-04-05T20:35:57.245		1.84x	-51.35	51485.77	8.31		