

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-07T11:58:27.240
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3425402032500415616
 2Mass ID (if available) : 06081761+2341447

Uranus 2034-04-07T11:58:27 K14.52 G16.59 PgtRgt

ICRS Star Coord at Epoch: 06h 08m 17.61001s +23:41:44.57371s

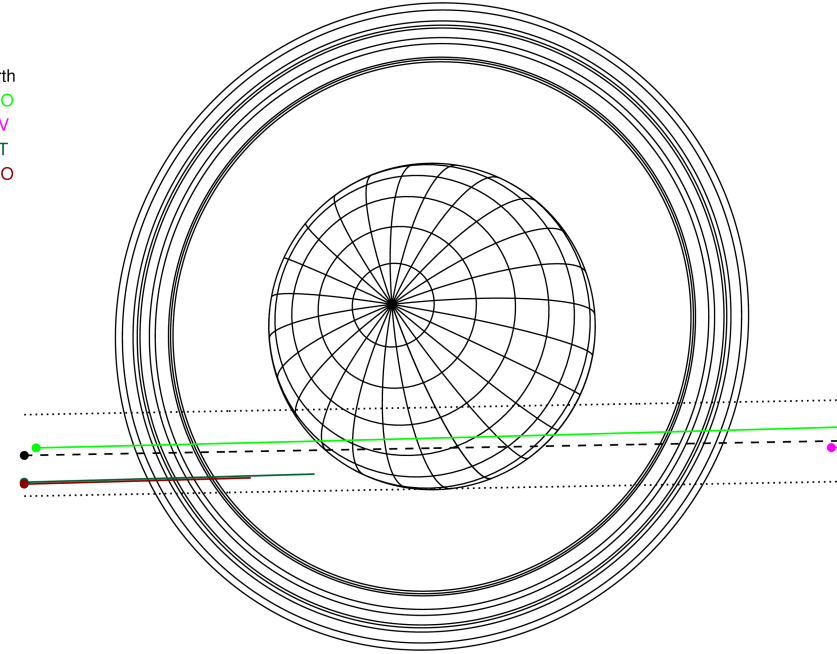
RUWE (>1.4 is poor) : 1.05
 K magnitude : 14.515
 G magnitude : 16.588
 RP magnitude : 15.905
 BP magnitude : 17.098
 DUPflag : 0
 Distance (au) : 19.176
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 14.26
 Sun-Target sep (deg) : 74.63
 Sun-Moon sep (deg) : 145.22
 B (ring opening deg) : 73.70
 PA of pole (deg) : 61.17

#	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



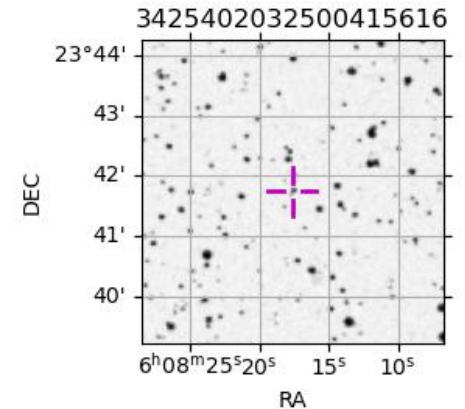
2034-04-07T11:58:27.2400 α: 06 08 17.6100 δ: +23 41 44.574 C/A 1.363° PA 1.02 deg v_sky +14.26 km/s D 19.18 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PMO
 KAV
 AAT
 MSO

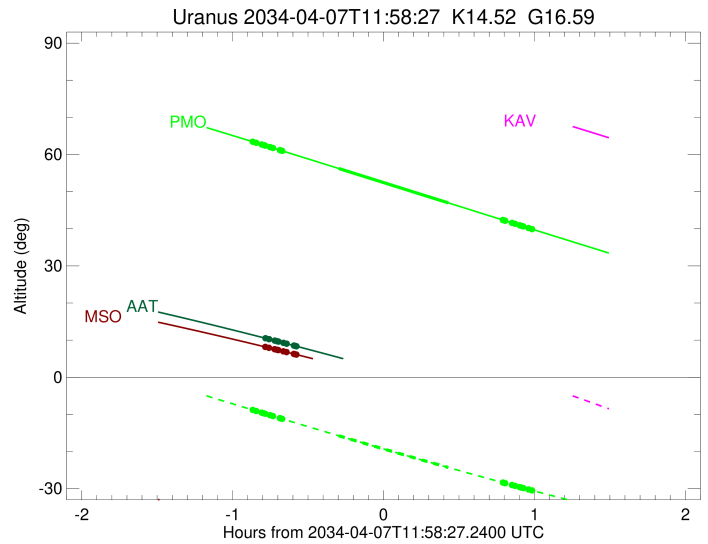
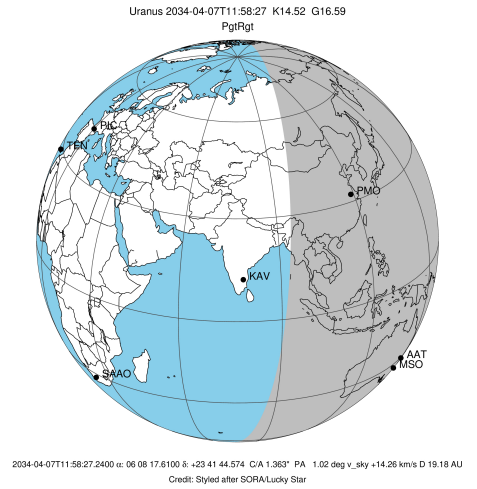


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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	+++++	+ +	+++++	APR 07 11:06 - APR 07 12:57	PieRie
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 07 11:12 - APR 07 11:23	PnnRin
SAAO	So. Afr. Astro. Obs.	-32.4	20.8					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0	+++++			APR 07 11:12 - APR 07 11:23	PnnRin

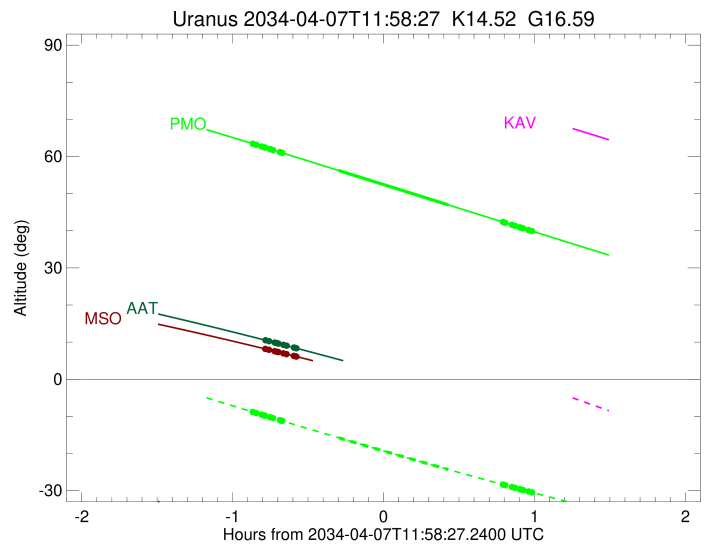
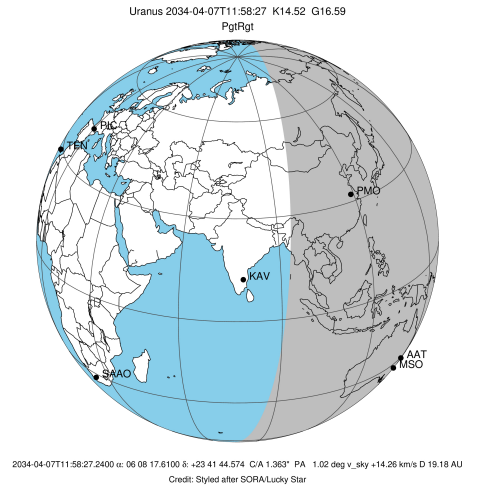


target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-07T12:02:52.630
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Observer code : PMO
 Location : Purple Mtn Obs. Nanking
 Latitude (deg) : 32.06667
 E. Longitude (deg) : 118.82089
 Altitude (km) : 0.364
 Gaia source ID : 3425402032500415616
 2Mass ID (if available) : 06081761+2341447
 ICRS Star Coord at Epoch: 06h 08m 17.61001s +23:41:44.57371s
 RUWE (>1.4 is poor) : 1.05
 K magnitude : 14.515
 G magnitude : 16.588
 RP magnitude : 15.905
 BP magnitude : 17.098
 DUPflag : 0
 Distance (au) : 19.176
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 14.26
 Sun-Target sep (deg) : 74.63
 Sun-Moon sep (deg) : 146.06
 B (ring opening deg) : 73.70
 PA of pole (deg) : 61.17
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 1.257
 C/A sky separation (km) : 17484.0
 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



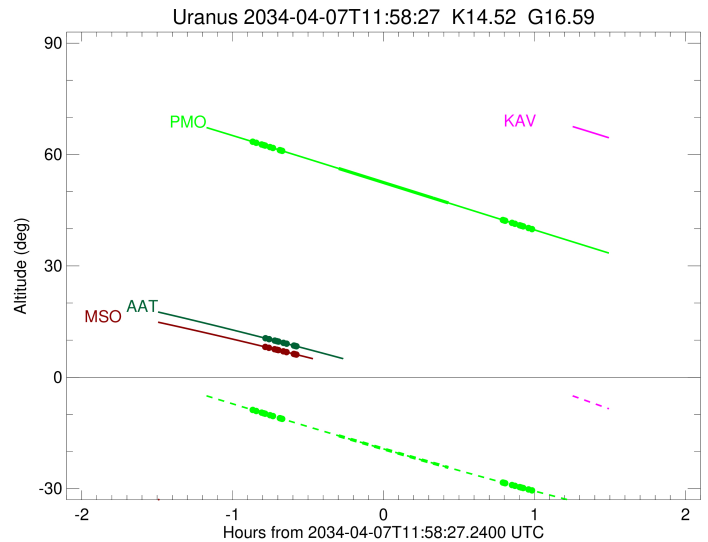
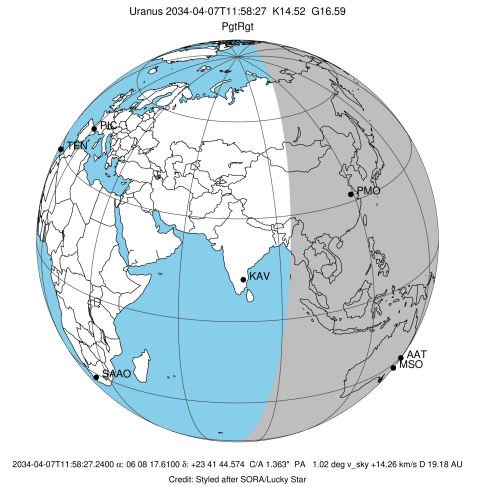
Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-04-07T11:06:59.221		63.34	-8.91	50743.56	-13.43		
lambda	I	2034-04-07T11:07:52.644		63.15	-9.09	50026.71	-13.41		
delta	I	2034-04-07T11:10:01.744		62.70	-9.54	48300.35	-13.34		
gamma	I	2034-04-07T11:10:52.315		62.53	-9.71	47626.55	-13.31		
eta	I	2034-04-07T11:11:26.184		62.41	-9.83	47176.12	-13.29		
beta	I	2034-04-07T11:13:19.737		62.01	-10.21	45670.63	-13.22		
alpha	I	2034-04-07T11:14:34.310		61.75	-10.47	44689.16	-13.17		
4	I	2034-04-07T11:17:15.801		61.19	-11.02	42569.50	-13.04		
5	I	2034-04-07T11:17:36.545		61.11	-11.09	42293.82	-13.03		
6	I	2034-04-07T11:18:14.707		60.98	-11.22	41797.19	-12.99		
Uranus	I	2034-04-07T11:40:41.042		56.23	-15.77	25514.48		4.56	4.77
Uranus	E	2034-04-07T12:24:15.052		46.97	-24.31	25049.99		-15.81	-16.52
6	E	2034-04-07T12:45:53.995		42.37	-28.36	41852.01	13.11		
5	E	2034-04-07T12:46:23.483		42.26	-28.45	42238.12	13.16		
4	E	2034-04-07T12:46:46.573		42.18	-28.53	42538.09	13.16		
alpha	E	2034-04-07T12:49:33.156		41.59	-29.03	44751.02	13.31		
beta	E	2034-04-07T12:50:41.952		41.35	-29.24	45667.13	13.36		
eta	E	2034-04-07T12:52:34.607		40.95	-29.58	47176.12	13.44		
gamma	E	2034-04-07T12:53:07.798		40.83	-29.68	47622.40	13.46		
delta	E	2034-04-07T12:53:58.118		40.66	-29.84	48300.35	13.49		
lambda	E	2034-04-07T12:56:05.750		40.21	-30.22	50026.71	13.56		
epsilon	E	2034-04-07T12:57:50.661		39.83	-30.53	51452.59	13.59		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-07T12:04:57.000
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : 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 : 3425402032500415616
 2Mass ID (if available) : 06081761+2341447
 ICRS Star Coord at Epoch: 06h 08m 17.61001s +23:41:44.57371s
 RUWE (>1.4 is poor) : 1.05
 K magnitude : 14.515
 G magnitude : 16.588
 RP magnitude : 15.905
 BP magnitude : 17.098
 DUPflag : 0
 Distance (au) : 19.176
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 14.26
 Sun-Target sep (deg) : 74.63
 Sun-Moon sep (deg) : 145.79
 B (ring opening deg) : 73.70
 PA of pole (deg) : 61.17
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 1.623
 C/A sky separation (km) : 22574.5
 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	2034-04-07T11:12:04.578		10.42	-42.82	50745.43	-12.94		
lambda	I	2034-04-07T11:13:00.224		10.26	-43.00	50026.71	-12.89		
delta	I	2034-04-07T11:15:14.743		9.87	-43.45	48300.35	-12.77		
gamma	I	2034-04-07T11:16:07.652		9.72	-43.62	47625.90	-12.72		
eta	I	2034-04-07T11:16:43.058		9.61	-43.74	47176.12	-12.69		
beta	I	2034-04-07T11:18:42.115		9.26	-44.13	45672.84	-12.56		
alpha	I	2034-04-07T11:20:00.691		9.03	-44.39	44691.66	-12.47		
4	I	2034-04-07T11:22:52.763		8.53	-44.96	42563.16	-12.24		
5	I	2034-04-07T11:23:13.796		8.46	-45.02	42300.96	-12.22		
6	I	2034-04-07T11:23:55.262		8.34	-45.16	41795.57	-12.15		
Uranus	I	2034-04-07T11:50:49.470		3.46x	-50.29	25557.93		-0.71	-0.74
Uranus	E	2034-04-07T12:18:04.049		-1.67x	-55.12	25178.03		-13.58	-14.20
6	E	2034-04-07T12:43:56.296		-6.69x	-59.20	41846.36	12.29		
5	E	2034-04-07T12:44:29.081		-6.80x	-59.28	42249.01	12.36		
4	E	2034-04-07T12:44:52.622		-6.87x	-59.34	42534.22	12.38		
alpha	E	2034-04-07T12:47:49.104		-7.45x	-59.76	44749.54	12.63		
beta	E	2034-04-07T12:49:01.720		-7.69x	-59.93	45669.45	12.72		
eta	E	2034-04-07T12:50:59.550		-8.08x	-60.20	47176.12	12.86		
gamma	E	2034-04-07T12:51:34.178		-8.19x	-60.28	47622.00	12.89		
delta	E	2034-04-07T12:52:26.669		-8.37x	-60.40	48300.35	12.95		
lambda	E	2034-04-07T12:54:39.295		-8.81x	-60.69	50026.71	13.08		
epsilon	E	2034-04-07T12:56:25.558		-9.16x	-60.93	51421.85	13.14		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-04-07T12:04:40.120
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : 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 : 3425402032500415616
 2Mass ID (if available) : 06081761+2341447
 ICRS Star Coord at Epoch: 06h 08m 17.61001s +23:41:44.57371s
 RUWE (>1.4 is poor) : 1.05
 K magnitude : 14.515
 G magnitude : 16.588
 RP magnitude : 15.905
 BP magnitude : 17.098
 DUPflag : 0
 Distance (au) : 19.176
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 14.26
 Sun-Target sep (deg) : 74.63
 Sun-Moon sep (deg) : 145.74
 B (ring opening deg) : 73.70
 PA of pole (deg) : 61.17
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 1.646
 C/A sky separation (km) : 22898.9
 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_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	2034-04-07T11:11:59.767		8.09	-41.17	50745.71	-12.90		
lambda	I	2034-04-07T11:12:55.609		7.93	-41.35	50026.71	-12.85		
delta	I	2034-04-07T11:15:10.584		7.56	-41.76	48300.35	-12.73		
gamma	I	2034-04-07T11:16:03.691		7.41	-41.93	47625.86	-12.67		
eta	I	2034-04-07T11:16:39.228		7.32	-42.04	47176.12	-12.64		
beta	I	2034-04-07T11:18:38.757		6.98	-42.40	45672.96	-12.51		
alpha	I	2034-04-07T11:19:57.675		6.76	-42.64	44691.83	-12.42		
4	I	2034-04-07T11:22:50.644		6.28	-43.17	42562.77	-12.17		
5	I	2034-04-07T11:23:11.729		6.22	-43.23	42301.35	-12.15		
6	I	2034-04-07T11:23:53.463		6.10	-43.36	41795.50	-12.08		
Uranus	I	2034-04-07T11:51:17.882	1.37x	-48.18	25556.16			-1.15	-1.20
Uranus	E	2034-04-07T12:17:01.307	-3.25x	-52.32	25192.51			-13.31	-13.92
6	E	2034-04-07T12:43:23.502	-8.15x	-56.04	41845.95		12.21		
5	E	2034-04-07T12:43:56.582	-8.25x	-56.11	42249.78		12.29		
4	E	2034-04-07T12:44:20.191	-8.33x	-56.16	42533.97		12.31		
alpha	E	2034-04-07T12:47:17.647	-8.88x	-56.53	44749.41		12.56		
beta	E	2034-04-07T12:48:30.643	-9.11x	-56.68	45669.61		12.66		
eta	E	2034-04-07T12:50:29.005	-9.49x	-56.92	47176.12		12.80		
gamma	E	2034-04-07T12:51:03.783	-9.60x	-56.99	47621.98		12.84		
delta	E	2034-04-07T12:51:56.499	-9.76x	-57.10	48300.35		12.90		
lambda	E	2034-04-07T12:54:09.655	-10.19x	-57.36	50026.71		13.03		
epsilon	E	2034-04-07T12:55:56.135	-10.52x	-57.56	51419.53		13.09		