

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2032-04-05T12:41:25.760
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3416184895242812032
 2Mass ID (if available) : 05304653+2325394

ICRS Star Coord at Epoch: 05h 30m 46.55245s +23:25:39.05717s

RUWE (>1.4 is poor) : 1.03
 K magnitude : 14.677
 G magnitude : 17.332
 RP magnitude : 16.499
 BP magnitude : 18.035
 DUPflag : 0
 Distance (au) : 19.428
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 17.75
 Sun-Target sep (deg) : 67.46
 Sun-Moon sep (deg) : 129.28
 B (ring opening deg) : 80.31
 PA of pole (deg) : 32.55

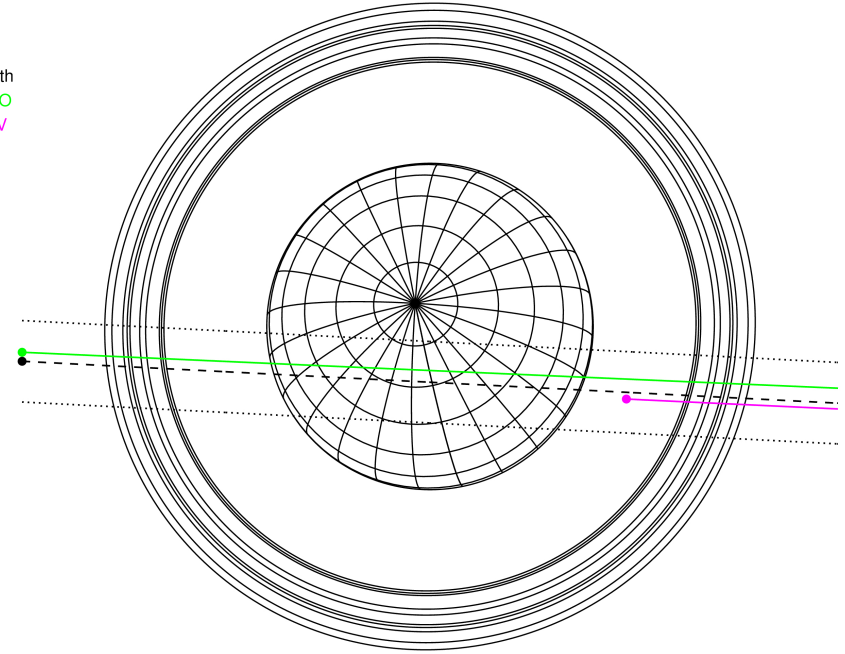
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2032-04-05T12:41:25.7600 ex: 05 30 46.5524 8: +23 25 39.057 C/A 0.613° PA 357.06 deg v_sky +17.75 km/s D 19.43 AU
 Credit: Styled after SORA/Lucky Star

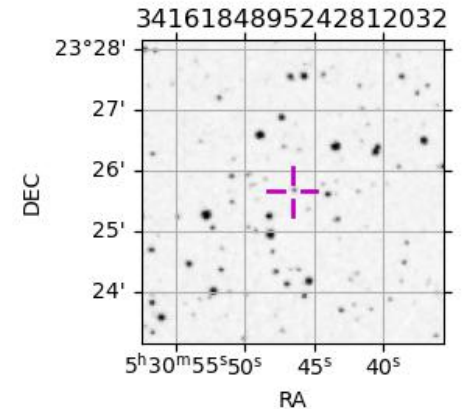
Uranus 2032-04-05T12:41:25 K14.68 G17.33 PgtRgt

Earth
 PMO
 KAV

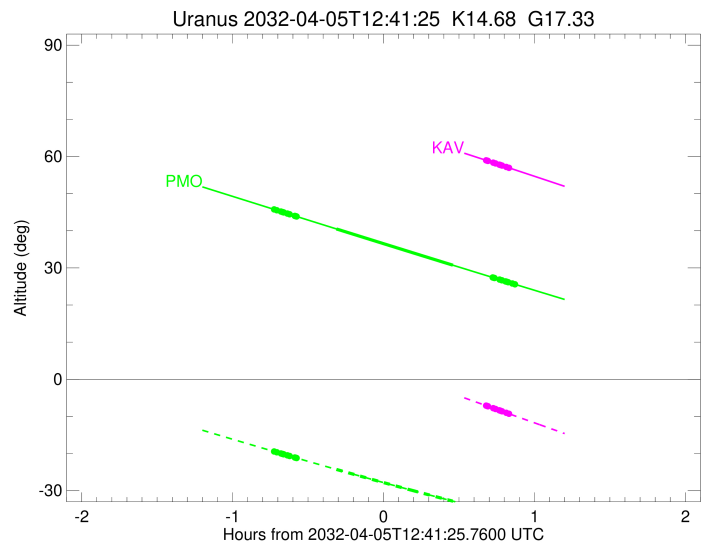
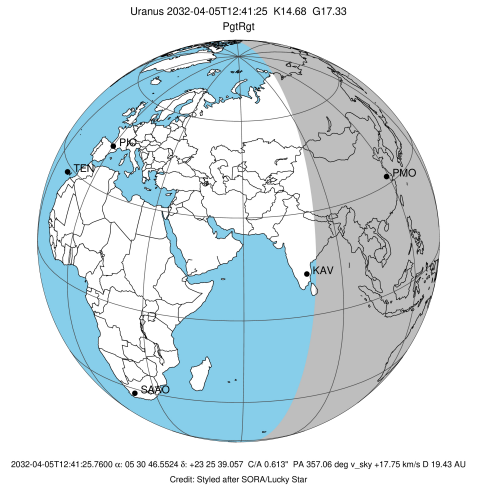


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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 05 11:57 - APR 05 13:33	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			+++++	APR 05 13:22 - APR 05 13:31	PnnRne
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					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn

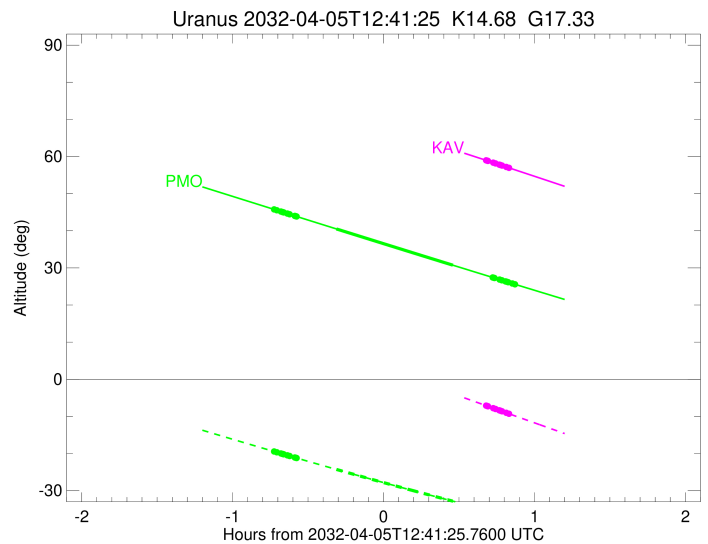
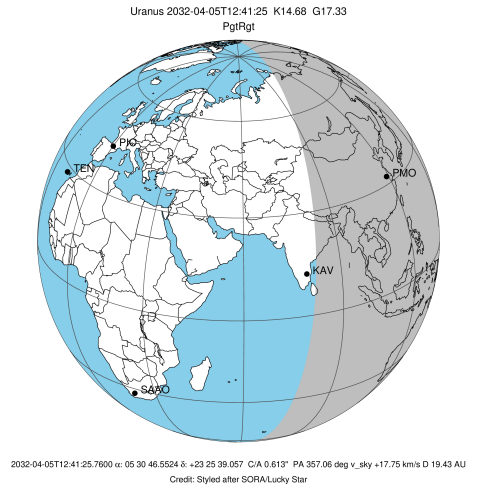


target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2032-04-05T12:46:01.800
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Observer code : PMO
 Location : Purple Mtn Obs. Nanking
 Latitude (deg) : 32.06667
 E. Longitude (deg) : 118.82089
 Altitude (km) : 0.364
 Gaia source ID : 3416184895242812032
 2Mass ID (if available) : 05304653+2325394
 ICRS Star Coord at Epoch: 05h 30m 46.55245s +23:25:39.05717s
 RUWE (>1.4 is poor) : 1.03
 K magnitude : 14.677
 G magnitude : 17.332
 RP magnitude : 16.499
 BP magnitude : 18.035
 DUPflag : 0
 Distance (au) : 19.428
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 17.75
 Sun-Target sep (deg) : 67.46
 Sun-Moon sep (deg) : 129.28
 B (ring opening deg) : 80.31
 PA of pole (deg) : 32.55
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 0.489
 C/A sky separation (km) : 6884.6
 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



Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2032-04-05T11:57:55.369		45.76	-19.45	51186.45	-17.37		
lambda	I	2032-04-05T11:59:02.079		45.53	-19.67	50026.71	-17.38		
delta	I	2032-04-05T12:00:41.427		45.17	-20.00	48300.35	-17.37		
gamma	I	2032-04-05T12:01:20.208		45.04	-20.12	47626.76	-17.37		
eta	I	2032-04-05T12:01:46.157		44.94	-20.21	47176.12	-17.36		
beta	I	2032-04-05T12:03:12.432		44.64	-20.49	45678.63	-17.35		
alpha	I	2032-04-05T12:04:05.763		44.45	-20.67	44752.30	-17.35		
4	I	2032-04-05T12:06:14.155		43.99	-21.09	42525.95	-17.32		
5	I	2032-04-05T12:06:31.795		43.93	-21.15	42224.72	-17.32		
6	I	2032-04-05T12:06:51.558		43.86	-21.21	41879.47	-17.32		
Uranus	I	2032-04-05T12:22:41.829		40.50	-24.28	25494.17		3.21	3.36
Uranus	E	2032-04-05T13:09:01.672		30.73	-32.84	25211.58		-7.50	-7.86
6	E	2032-04-05T13:24:47.177		27.44	-35.55	41795.79	17.46		
5	E	2032-04-05T13:25:11.059		27.35	-35.62	42218.53	17.46		
4	E	2032-04-05T13:25:34.008		27.27	-35.68	42613.74	17.47		
alpha	E	2032-04-05T13:27:32.584		26.86	-36.02	44687.29	17.50		
beta	E	2032-04-05T13:28:27.355		26.67	-36.17	45647.46	17.51		
eta	E	2032-04-05T13:29:54.648		26.37	-36.41	47176.12	17.52		
gamma	E	2032-04-05T13:30:20.393		26.28	-36.48	47627.33	17.53		
delta	E	2032-04-05T13:30:58.781		26.15	-36.59	48300.35	17.54		
lambda	E	2032-04-05T13:32:37.187		25.81	-36.86	50026.71	17.55		
epsilon	E	2032-04-05T13:33:32.557		25.61	-37.01	50998.76	17.54		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2032-04-05T12:43:29.340
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Observer code : KAV
 Location : Kavalur Observatory
 Latitude (deg) : 12.57556
 E. Longitude (deg) : 78.83167
 Altitude (km) : 0.722
 Gaia source ID : 3416184895242812032
 2Mass ID (if available) : 05304653+2325394
 ICRS Star Coord at Epoch: 05h 30m 46.55245s +23:25:39.05717s
 RUWE (>1.4 is poor) : 1.03
 K magnitude : 14.677
 G magnitude : 17.332
 RP magnitude : 16.499
 BP magnitude : 18.035
 DUPflag : 0
 Distance (au) : 19.428
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 17.75
 Sun-Target sep (deg) : 67.46
 Sun-Moon sep (deg) : 129.76
 B (ring opening deg) : 80.31
 PA of pole (deg) : 32.55
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 0.701
 C/A sky separation (km) : 9871.0
 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_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	2032-04-05T11:55:15.352		76.22	14.01x	51164.35	-17.00		
lambda	I	2032-04-05T11:56:22.194		76.06	13.74x	50026.71	-17.01		
delta	I	2032-04-05T11:58:03.745		75.80	13.33x	48300.35	-16.99		
gamma	I	2032-04-05T11:58:43.392		75.70	13.17x	47627.07	-16.98		
eta	I	2032-04-05T11:59:09.961		75.64	13.06x	47176.12	-16.97		
beta	I	2032-04-05T12:00:38.246		75.41	12.70x	45679.20	-16.94		
alpha	I	2032-04-05T12:01:32.919		75.26	12.48x	44752.42	-16.93		
4	I	2032-04-05T12:03:44.607		74.91	11.94x	42525.97	-16.88		
5	I	2032-04-05T12:04:03.005		74.86	11.87x	42219.36	-16.87		
6	I	2032-04-05T12:04:23.038		74.80	11.79x	41879.05	-16.86		
Uranus	I	2032-04-05T12:20:48.985		71.88	7.79x	25530.91		2.11	2.21
Uranus	E	2032-04-05T13:05:43.552		62.61	-3.11x	25141.99		-8.24	-8.63
6	E	2032-04-05T13:22:10.158		58.99	-7.09	41796.65	16.94		
5	E	2032-04-05T13:22:34.332		58.90	-7.18	42212.52	16.94		
4	E	2032-04-05T13:22:58.252		58.81	-7.28	42612.40	16.96		
alpha	E	2032-04-05T13:25:00.472		58.36	-7.77	44688.33	17.01		
beta	E	2032-04-05T13:25:56.805		58.15	-8.00	45648.55	17.03		
eta	E	2032-04-05T13:27:26.470		57.82	-8.36	47176.12	17.06		
gamma	E	2032-04-05T13:27:52.941		57.72	-8.47	47627.69	17.06		
delta	E	2032-04-05T13:28:32.348		57.57	-8.62	48300.35	17.08		
lambda	E	2032-04-05T13:30:13.367		57.20	-9.03	50026.71	17.10		
epsilon	E	2032-04-05T13:31:08.783		56.99	-9.25	50974.94	17.09		