

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2037-05-08T14:43:25.260
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3368289348401549440
 2Mass ID (if available) : 07091929+2254424

Uranus 2037-05-08T14:43:25 K14.99 G16.68 PgtRgt

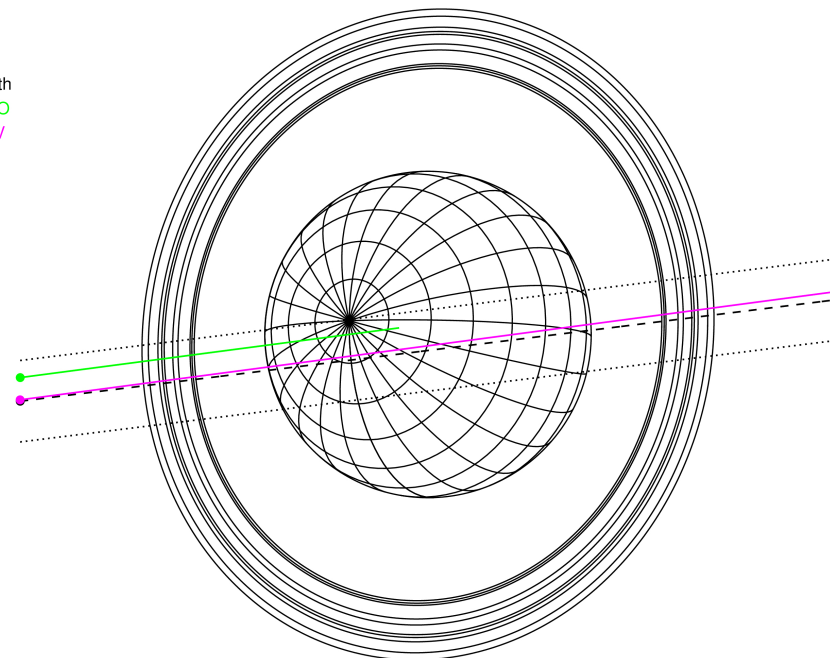
ICRS Star Coord at Epoch: 07h 09m 19.31129s +22:54:42.54066s

RUWE (>1.4 is poor) : 4.25
 K magnitude : 14.995
 G magnitude : 16.678
 RP magnitude : 15.952
 BP magnitude : 16.866
 DUPflag : 0
 Distance (au) : 19.258
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 22.20
 Sun-Target sep (deg) : 58.09
 Sun-Moon sep (deg) : 132.74
 B (ring opening deg) : 60.65
 PA of pole (deg) : 80.11
 # a(km) ring



2037-05-08T14:43:25.2600 α: 07 09 19.31113 δ: +22 54 42.541 C/A 0.170° PA 7.09 deg v_sky +22.20 km/s D 19.26 AU
 Credit: Styled after SORA/Lucky Star

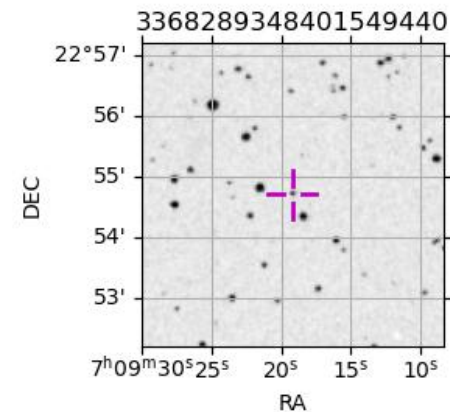
Earth
 PMO
 KAV



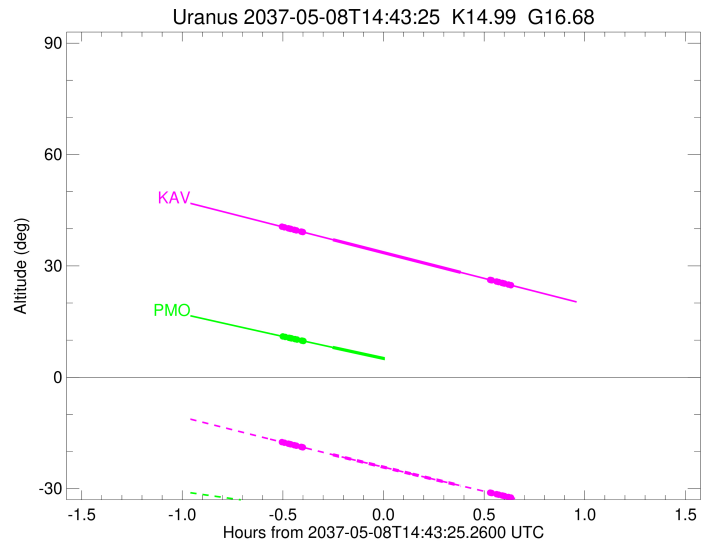
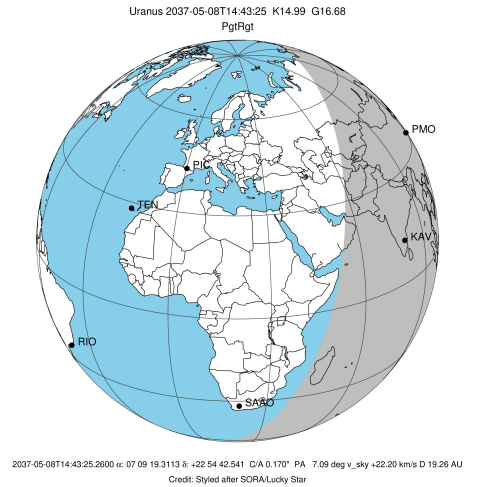
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon

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	+++++	+		MAY 08 14:13 - MAY 08 14:28	PinRin
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	+++++	+	+++++	MAY 08 14:13 - MAY 08 15:21	PieRie
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

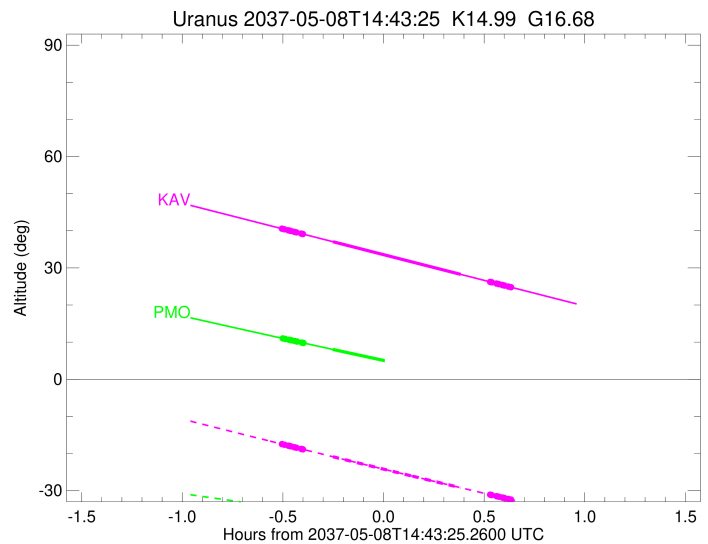
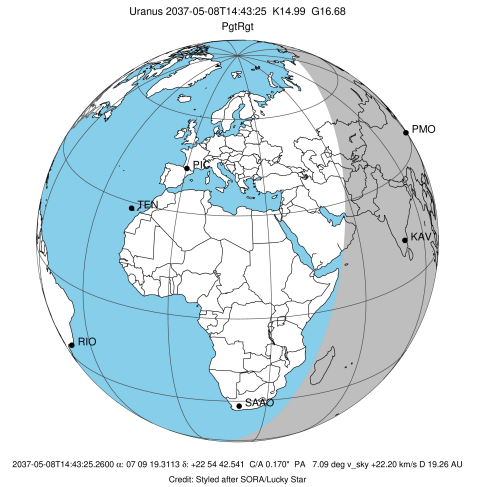


target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2037-05-08T14:47:03.530
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Observer code : PMO
 Location : Purple Mtn Obs. Nanking
 Latitude (deg) : 32.06667
 E. Longitude (deg) : 118.82089
 Altitude (km) : 0.364
 Gaia source ID : 3368289348401549440
 2Mass ID (if available) : 07091929+2254424
 ICRS Star Coord at Epoch: 07h 09m 19.31129s +22:54:42.54066s
 RUWE (>1.4 is poor) : 4.25
 K magnitude : 14.995
 G magnitude : 16.678
 RP magnitude : 15.952
 BP magnitude : 16.866
 DUPflag : 0
 Distance (au) : 19.258
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 22.20
 Sun-Target sep (deg) : 58.09
 Sun-Moon sep (deg) : 132.31
 B (ring opening deg) : 60.65
 PA of pole (deg) : 80.11
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 0.116
 C/A sky separation (km) : 1613.7
 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_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	2037-05-08T14:13:16.577		11.03	-34.45	51349.95	-25.19		
lambda	I	2037-05-08T14:14:09.111		10.85	-34.54	50026.71	-25.19		
delta	I	2037-05-08T14:15:17.647		10.62	-34.67	48300.35	-25.19		
gamma	I	2037-05-08T14:15:44.483		10.54	-34.72	47624.36	-25.19		
eta	I	2037-05-08T14:16:02.278		10.48	-34.75	47176.12	-25.19		
beta	I	2037-05-08T14:17:03.002		10.27	-34.86	45644.83	-25.19		
alpha	I	2037-05-08T14:17:40.407		10.15	-34.93	44702.28	-25.19		
4	I	2037-05-08T14:19:03.399		9.88	-35.08	42614.61	-25.19		
5	I	2037-05-08T14:19:21.051		9.82	-35.11	42160.17	-25.19		
6	I	2037-05-08T14:19:35.441		9.77	-35.13	41829.77	-25.20		
Uranus	I	2037-05-08T14:28:16.587		8.05	-36.02	25139.23		28.44	29.56
Uranus	E	2037-05-08T15:05:50.019		0.77x	-39.06	25170.83		-27.23	-28.32
6	E	2037-05-08T15:14:38.146		-0.90x	-39.57	41841.45	25.33		
5	E	2037-05-08T15:14:57.924		-0.96x	-39.59	42311.83	25.31		
4	E	2037-05-08T15:15:06.148		-0.99x	-39.59	42528.99	25.32		
alpha	E	2037-05-08T15:16:33.310		-1.26x	-39.67	44732.57	25.32		
beta	E	2037-05-08T15:17:10.654		-1.38x	-39.70	45678.23	25.33		
eta	E	2037-05-08T15:18:09.734		-1.56x	-39.75	47176.12	25.33		
gamma	E	2037-05-08T15:18:27.567		-1.62x	-39.76	47627.84	25.33		
delta	E	2037-05-08T15:18:54.114		-1.70x	-39.78	48300.35	25.33		
lambda	E	2037-05-08T15:20:02.255		-1.91x	-39.84	50026.71	25.34		
epsilon	E	2037-05-08T15:20:39.329		-2.03x	-39.87	50966.11	25.35		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2037-05-08T14:47:25.610
 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 : 3368289348401549440
 2Mass ID (if available) : 07091929+2254424
 ICRS Star Coord at Epoch: 07h 09m 19.31129s +22:54:42.54066s
 RUWE (>1.4 is poor) : 4.25
 K magnitude : 14.995
 G magnitude : 16.678
 RP magnitude : 15.952
 BP magnitude : 16.866
 DUPflag : 0
 Distance (au) : 19.258
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 22.20
 Sun-Target sep (deg) : 58.09
 Sun-Moon sep (deg) : 132.60
 B (ring opening deg) : 60.65
 PA of pole (deg) : 80.11
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 0.126
 C/A sky separation (km) : 1756.0
 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	2037-05-08T14:13:01.830		40.59	-17.44	51325.54	-24.85		
lambda	I	2037-05-08T14:13:54.092		40.39	-17.64	50026.71	-24.85		
delta	I	2037-05-08T14:15:03.555		40.12	-17.90	48300.35	-24.85		
gamma	I	2037-05-08T14:15:30.739		40.02	-18.00	47624.73	-24.85		
eta	I	2037-05-08T14:15:48.789		39.95	-18.07	47176.12	-24.85		
beta	I	2037-05-08T14:16:50.375		39.71	-18.30	45643.99	-24.85		
alpha	I	2037-05-08T14:17:28.174		39.57	-18.44	44704.63	-24.85		
4	I	2037-05-08T14:18:52.454		39.24	-18.75	42613.39	-24.85		
5	I	2037-05-08T14:19:10.417		39.17	-18.82	42158.06	-24.85		
6	I	2037-05-08T14:19:24.701		39.12	-18.87	41833.25	-24.87		
Uranus	I	2037-05-08T14:28:22.553		37.05	-20.88	25173.05		27.14	28.23
Uranus	E	2037-05-08T15:06:25.065		28.26	-29.21	25138.46		-28.47	-29.59
6	E	2037-05-08T15:15:11.425		26.24	-31.08	41844.80	25.00		
5	E	2037-05-08T15:15:31.323		26.16	-31.16	42309.76	24.98		
4	E	2037-05-08T15:15:39.660		26.13	-31.18	42527.84	24.98		
alpha	E	2037-05-08T15:17:08.102		25.79	-31.50	44734.83	24.99		
beta	E	2037-05-08T15:17:45.805		25.64	-31.63	45677.42	24.99		
eta	E	2037-05-08T15:18:45.697		25.41	-31.84	47176.12	25.00		
gamma	E	2037-05-08T15:19:03.780		25.34	-31.91	47628.19	25.00		
delta	E	2037-05-08T15:19:30.666		25.24	-32.00	48300.35	25.00		
lambda	E	2037-05-08T15:20:39.710		24.98	-32.25	50026.71	25.01		
epsilon	E	2037-05-08T15:21:16.353		24.84	-32.37	50943.08	25.00		