

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2035-10-01T03:06:13.090
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3368106966907216256
 2Mass ID (if available) : 07024213+2300442

Uranus 2035-10-01T03:06:13 K13.94 G16.57 PgtRgt

ICRS Star Coord at Epoch: 07h 02m 42.11101s +23:00:43.72145s

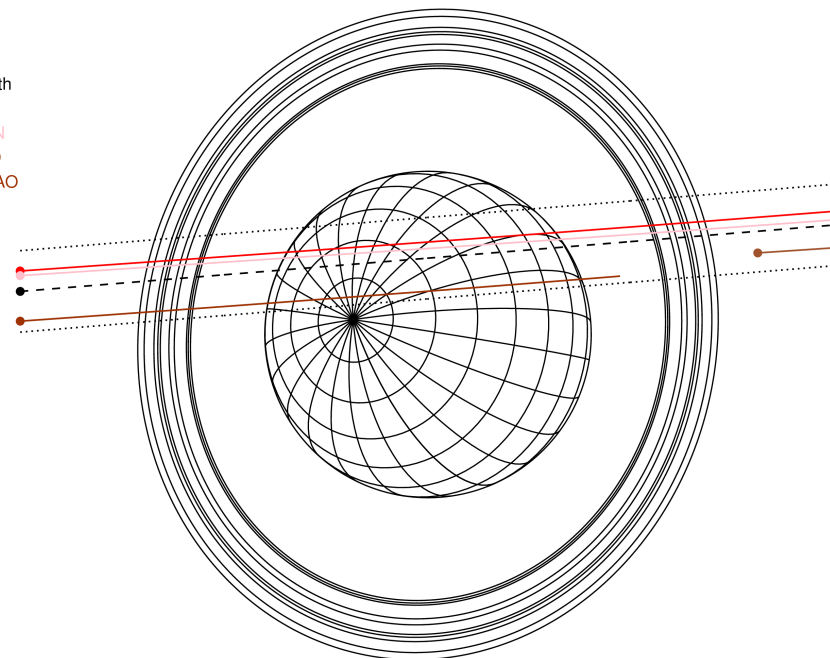
RUWE (>1.4 is poor) : 1.07
 K magnitude : 13.938
 G magnitude : 16.568
 RP magnitude : 15.756
 BP magnitude : 17.225
 DUPflag : 0
 Distance (au) : 18.940
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 10.13
 Sun-Target sep (deg) : 82.89
 Sun-Moon sep (deg) : 77.68
 B (ring opening deg) : 62.13
 PA of pole (deg) : 78.77

Uranus 2035-10-01T03:06:13 K13.94 G16.57
 PgtRgt



2035-10-01T03:06:13.0900 ex: 07 02 42.1110 s: +23 00 43.721 C/A 0.869° PA 184.66 deg v_sky +10.13 km/s D 18.94 AU
 Credit: Styled after SORA/Lucky Star

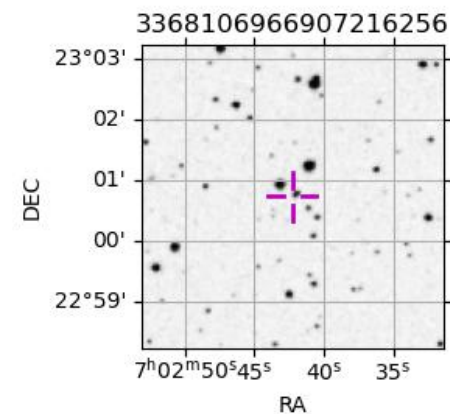
Earth
 PIC
 TEN
 RIO
 SAAO



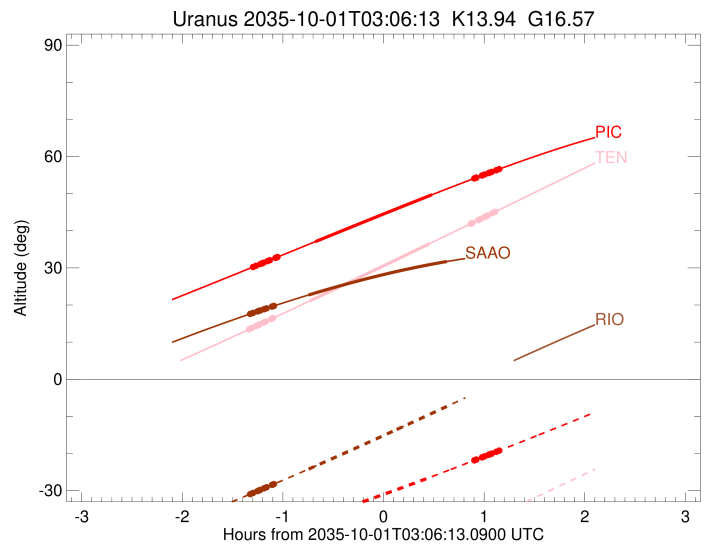
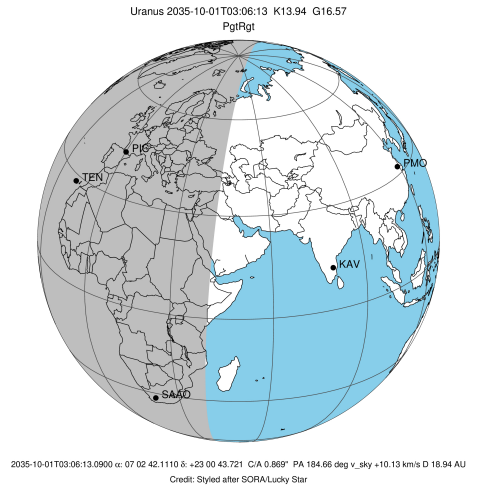
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon

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	+++++	+ +	+++++	OCT 01 01:48 - OCT 01 04:15	PieRie
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	+++++	+ +	+++++	OCT 01 01:46 - OCT 01 04:13	PieRie
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	+++++	+ +		OCT 01 01:47 - OCT 01 03:43	PieRin
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



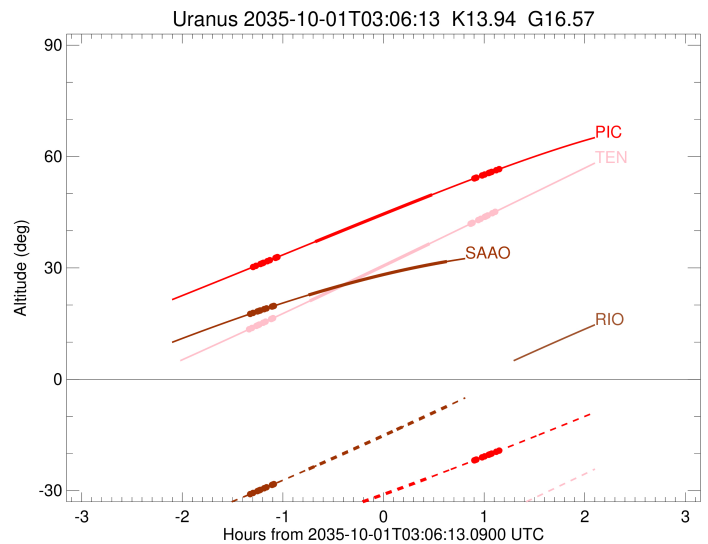
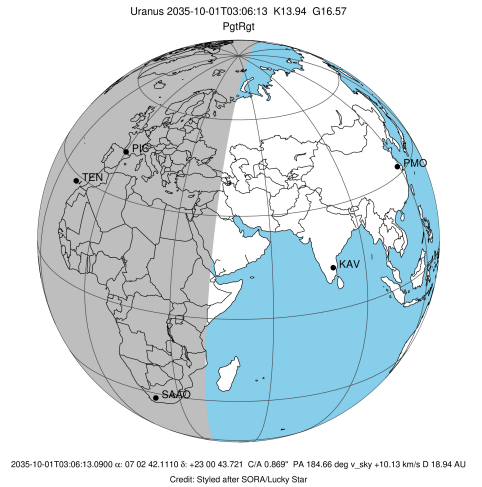
target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2035-10-01T03:00:02.240
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Observer code : PIC
 Location : Pic du Midi
 Latitude (deg) : 42.93656
 E. Longitude (deg) : 0.14231
 Altitude (km) : 2.890
 Gaia source ID : 3368106966907216256
 2Mass ID (if available) : 07024213+2300442
 ICRS Star Coord at Epoch: 07h 02m 42.11101s +23:00:43.72145s
 RUWE (>1.4 is poor) : 1.07
 K magnitude : 13.938
 G magnitude : 16.568
 RP magnitude : 15.756
 BP magnitude : 17.225
 DUPflag : 0
 Distance (au) : 18.940
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 10.13
 Sun-Target sep (deg) : 82.89
 Sun-Moon sep (deg) : 78.46
 B (ring opening deg) : 62.13
 PA of pole (deg) : 78.77
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 1.051
 C/A sky separation (km) : 14441.5
 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_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

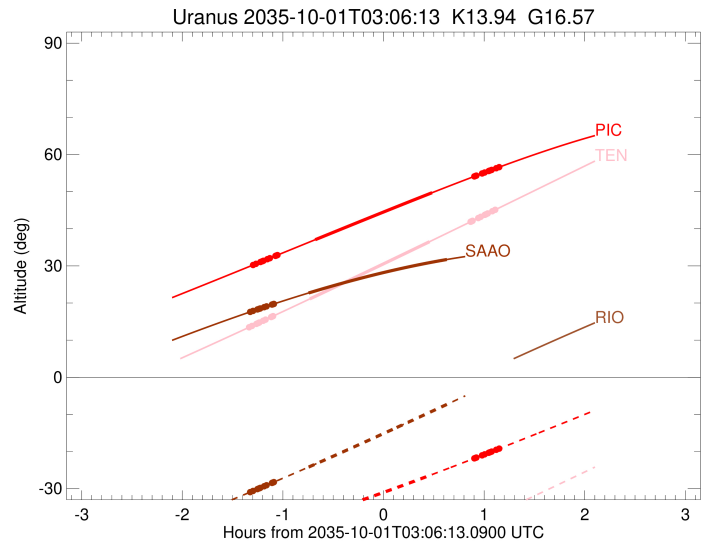
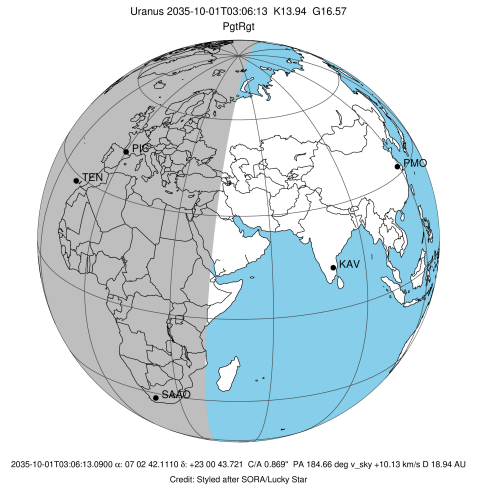
Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2035-10-01T01:48:46.883		30.30	-42.24	50937.41	-10.81		
lambda	I	2035-10-01T01:50:11.361		30.56	-42.06	50026.71	-10.77		
delta	I	2035-10-01T01:52:51.958		31.05	-41.73	48300.35	-10.73		
gamma	I	2035-10-01T01:53:55.334		31.25	-41.59	47620.97	-10.71		
eta	I	2035-10-01T01:54:36.889		31.38	-41.51	47176.12	-10.70		
beta	I	2035-10-01T01:56:59.843		31.81	-41.20	45649.44	-10.65		
alpha	I	2035-10-01T01:58:26.304		32.08	-41.01	44734.63	-10.63		
4	I	2035-10-01T02:01:47.989		32.70	-40.58	42580.70	-10.56		
5	I	2035-10-01T02:02:22.339		32.80	-40.50	42224.83	-10.53		
6	I	2035-10-01T02:02:55.560		32.90	-40.43	41860.62	-10.53		
Uranus	I	2035-10-01T02:25:31.782		37.06	-37.29	25152.80		26.11	27.17
Uranus	E	2035-10-01T03:35:09.977		49.71	-26.21	25368.43		-17.43	-18.20
6	E	2035-10-01T04:00:23.795		54.11	-21.84	41842.55	10.35		
5	E	2035-10-01T04:00:57.043		54.21	-21.74	42191.15	10.35		
4	E	2035-10-01T04:01:35.114		54.32	-21.63	42592.36	10.37		
alpha	E	2035-10-01T04:04:59.142		54.89	-21.03	44724.13	10.43		
beta	E	2035-10-01T04:06:29.076		55.15	-20.77	45660.59	10.45		
eta	E	2035-10-01T04:08:53.695		55.55	-20.34	47176.12	10.49		
gamma	E	2035-10-01T04:09:37.026		55.68	-20.22	47630.78	10.50		
delta	E	2035-10-01T04:10:40.768		55.85	-20.03	48300.35	10.51		
lambda	E	2035-10-01T04:13:24.750		56.31	-19.54	50026.71	10.54		
epsilon	E	2035-10-01T04:15:45.646		56.70	-19.13	51514.07	10.58		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2035-10-01T02:57:39.980
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : 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 : 3368106966907216256
 2Mass ID (if available) : 07024213+2300442
 ICRS Star Coord at Epoch: 07h 02m 42.11101s +23:00:43.72145s
 RUWE (>1.4 is poor) : 1.07
 K magnitude : 13.938
 G magnitude : 16.568
 RP magnitude : 15.756
 BP magnitude : 17.225
 DUPflag : 0
 Distance (au) : 18.940
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 10.13
 Sun-Target sep (deg) : 82.89
 Sun-Moon sep (deg) : 78.32
 B (ring opening deg) : 62.13
 PA of pole (deg) : 78.77
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 0.978
 C/A sky separation (km) : 13436.5
 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_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	2035-10-01T01:46:26.112		13.54	-62.18	50931.72	-10.98		
lambda	I	2035-10-01T01:47:48.775		13.83	-62.04	50026.71	-10.94		
delta	I	2035-10-01T01:50:26.864		14.38	-61.76	48300.35	-10.90		
gamma	I	2035-10-01T01:51:29.232		14.60	-61.64	47620.96	-10.89		
eta	I	2035-10-01T01:52:10.120		14.74	-61.57	47176.12	-10.87		
beta	I	2035-10-01T01:54:30.708		15.23	-61.30	45649.76	-10.83		
alpha	I	2035-10-01T01:55:55.806		15.53	-61.13	44734.03	-10.81		
4	I	2035-10-01T01:59:14.054		16.23	-60.73	42579.76	-10.75		
5	I	2035-10-01T01:59:47.512		16.34	-60.67	42226.54	-10.72		
6	I	2035-10-01T02:00:20.384		16.46	-60.60	41859.84	-10.72		
Uranus	I	2035-10-01T02:22:18.286		21.11	-57.56	25141.29		26.52	27.59
Uranus	E	2035-10-01T03:33:40.909		36.53	-44.85	25344.84		-18.53	-19.34
6	E	2035-10-01T03:58:09.843		41.89	-39.92	41841.27	10.47		
5	E	2035-10-01T03:58:42.959		42.01	-39.80	42193.19	10.47		
4	E	2035-10-01T03:59:20.304		42.15	-39.68	42591.15	10.49		
alpha	E	2035-10-01T04:02:42.022		42.89	-38.99	44723.17	10.55		
beta	E	2035-10-01T04:04:11.176		43.21	-38.68	45661.15	10.56		
eta	E	2035-10-01T04:06:34.311		43.74	-38.19	47176.12	10.59		
gamma	E	2035-10-01T04:07:17.238		43.89	-38.04	47630.85	10.60		
delta	E	2035-10-01T04:08:20.381		44.13	-37.82	48300.35	10.61		
lambda	E	2035-10-01T04:11:02.918		44.72	-37.26	50026.71	10.63		
epsilon	E	2035-10-01T04:13:22.219		45.23	-36.77	51509.44	10.66		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2035-10-01T03:02:32.110
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : 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 : 3368106966907216256
 2Mass ID (if available) : 07024213+2300442
 ICRS Star Coord at Epoch: 07h 02m 42.11101s +23:00:43.72145s
 RUWE (>1.4 is poor) : 1.07
 K magnitude : 13.938
 G magnitude : 16.568
 RP magnitude : 15.756
 BP magnitude : 17.225
 DUPflag : 0
 Distance (au) : 18.940
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 10.13
 Sun-Target sep (deg) : 82.89
 Sun-Moon sep (deg) : 78.20
 B (ring opening deg) : 62.13
 PA of pole (deg) : 78.77
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 0.492
 C/A sky separation (km) : 6759.2
 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	2035-10-01T01:47:08.271		17.68	-30.87	50885.79	-11.01		
lambda	I	2035-10-01T01:48:26.348		17.88	-30.62	50026.71	-11.00		
delta	I	2035-10-01T01:51:03.379		18.28	-30.12	48300.35	-10.99		
gamma	I	2035-10-01T01:52:05.225		18.43	-29.93	47620.99	-10.98		
eta	I	2035-10-01T01:52:45.740		18.54	-29.80	47176.12	-10.98		
beta	I	2035-10-01T01:55:04.544		18.89	-29.36	45652.51	-10.97		
alpha	I	2035-10-01T01:56:29.237		19.10	-29.08	44728.98	-10.96		
4	I	2035-10-01T01:59:44.717		19.59	-28.46	42572.11	-10.94		
5	I	2035-10-01T02:00:15.297		19.66	-28.36	42240.26	-10.93		
6	I	2035-10-01T02:00:49.556		19.75	-28.25	41853.31	-10.93		
Uranus	I	2035-10-01T02:21:29.933		22.70	-24.20	25102.22		27.87	28.98
Uranus	E	2035-10-01T03:43:59.127		31.72	-7.31	25222.67		-23.56	-24.54
6	E	2035-10-01T04:06:00.977		33.20	-2.68x	41834.57	10.76		
5	E	2035-10-01T04:06:34.618		33.24	-2.56x	42204.34	10.76		
4	E	2035-10-01T04:07:09.559		33.27	-2.44x	42584.65	10.77		
alpha	E	2035-10-01T04:10:26.336		33.45	-1.75x	44718.23	10.79		
beta	E	2035-10-01T04:11:54.359		33.52	-1.44x	45664.01	10.79		
eta	E	2035-10-01T04:14:14.390		33.64	-0.94x	47176.12	10.79		
gamma	E	2035-10-01T04:14:56.546		33.67	-0.80x	47631.18	10.80		
delta	E	2035-10-01T04:15:58.526		33.72	-0.58x	48300.35	10.80		
lambda	E	2035-10-01T04:18:38.363		33.85	-0.02x	50026.71	10.80		
epsilon	E	2035-10-01T04:20:53.147		33.95	0.46x	51483.15	10.81		