

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-08-31T05:04:17.340
 Event type : PgtRgt
 : Uranus occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3379766256931061760
 2Mass ID (if available) : 06400224+2324336

ICRS Star Coord at Epoch: 06h 40m 02.23778s +23:24:33.24119s

RUWE (>1.4 is poor) : 0.99
 K magnitude : 13.848
 G magnitude : 16.105
 RP magnitude : 0.000
 BP magnitude : 0.000
 DUPflag : 0
 Distance (au) : 19.422
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 22.09
 Sun-Target sep (deg) : 58.24
 Sun-Moon sep (deg) : 102.10
 B (ring opening deg) : 67.09
 PA of pole (deg) : 73.05

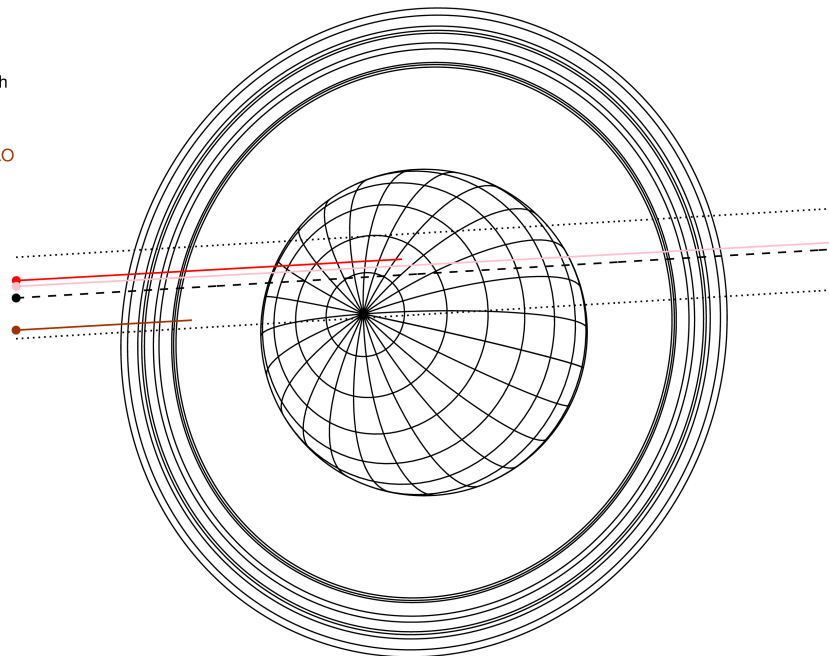
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2034-08-31T05:04:17.3400 ex: 06 40 02.2378 s: +23 24 33.2411 C/A 0.658° PA 183.41 deg v_sky +22.09 km/s D 19.42 AU
 Credit: Styled after SORA/Lucky Star

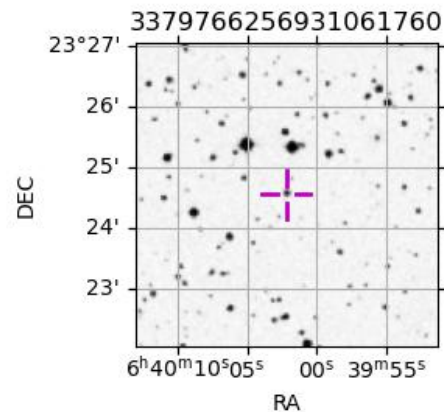
Uranus 2034-08-31T05:04:17 K13.85 G16.10 PgtRgt

Earth
 PIC
 TEN
 SAAO



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

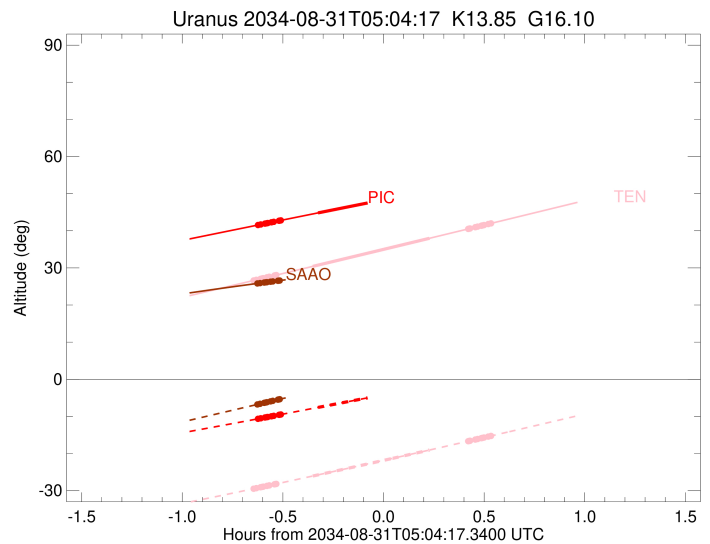
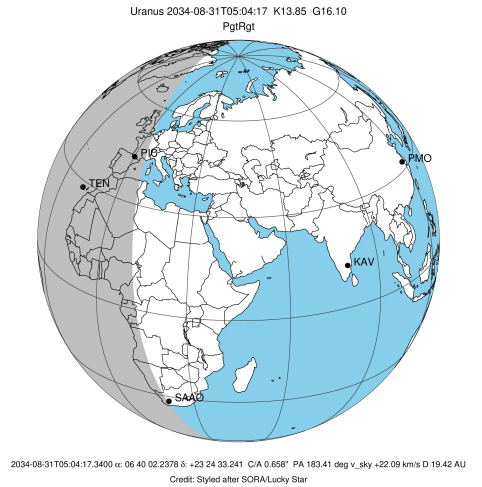
Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1	+++++	+		AUG 31 04:26 - AUG 31 04:44	PinRin
PAL	Palomar Mt (200")	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs. Nanki	32.1	118.8					PnnRnn
KPNO	Kitt Peak Natl Obs	32.0	248.4					PnnRnn
MCD	McDonald Obs. 2.7m	30.7	256.0					PnnRnn
TEN	Teide Obs./Tenerife	28.3	343.5	+++++	+	+++++	AUG 31 04:25 - AUG 31 05:36	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	+++++			AUG 31 04:26 - AUG 31 04:33	PnnRin
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



3379766256931061760

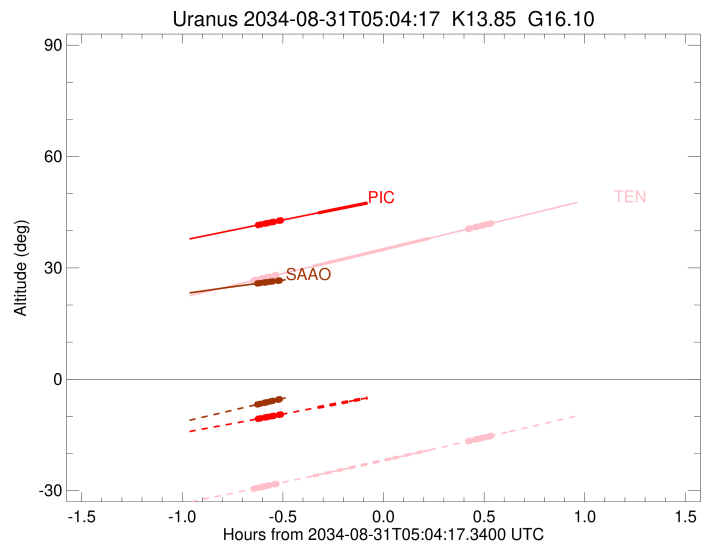
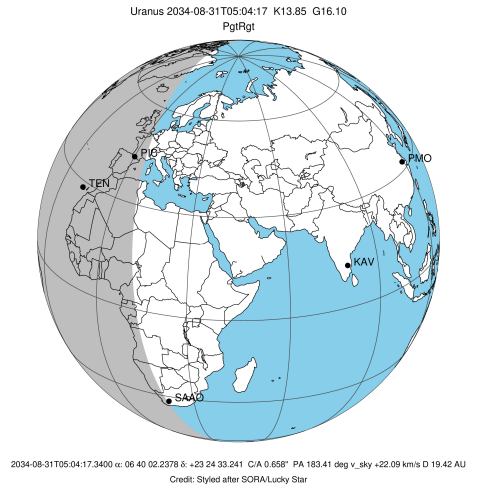
23°27'
 26'
 25'
 24'
 23'
 6h40m10s05s 00s 39m55s
 RA

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-08-31T05:01:40.890
 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 : 3379766256931061760
 2Mass ID (if available) : 06400224+2324336
 ICRS Star Coord at Epoch: 06h 40m 02.23778s +23:24:33.24119s
 RUWE (>1.4 is poor) : 0.99
 K magnitude : 13.848
 G magnitude : 16.105
 RP magnitude : 0.000
 BP magnitude : 0.000
 DUPflag : 0
 Distance (au) : 19.422
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 22.09
 Sun-Target sep (deg) : 58.24
 Sun-Moon sep (deg) : 102.94
 B (ring opening deg) : 67.09
 PA of pole (deg) : 73.05
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 0.827
 C/A sky separation (km) : 11650.4
 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



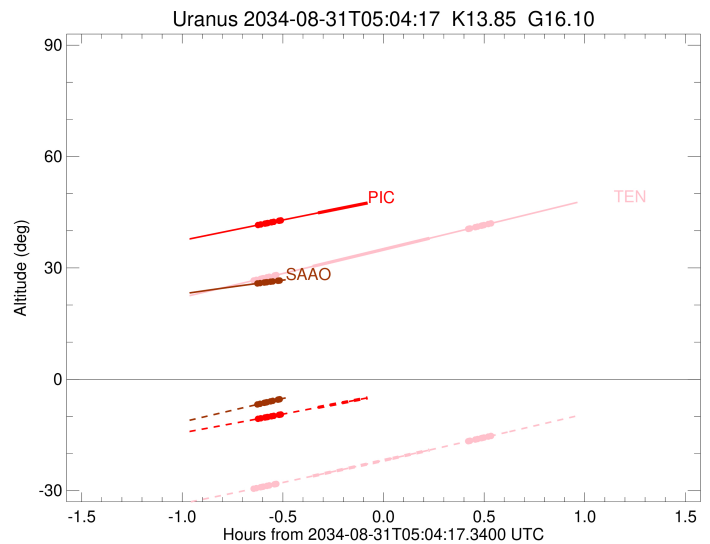
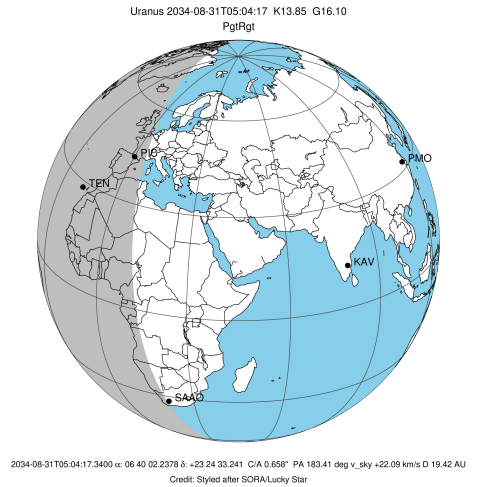
Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2034-08-31T04:26:42.746		41.52	-10.68	51382.58	-22.87		
lambda	I	2034-08-31T04:27:41.931		41.70	-10.51	50026.71	-22.89		
delta	I	2034-08-31T04:28:57.432		41.93	-10.30	48300.35	-22.84		
gamma	I	2034-08-31T04:29:27.169		42.02	-10.21	47621.49	-22.82		
eta	I	2034-08-31T04:29:46.694		42.08	-10.16	47176.12	-22.80		
beta	I	2034-08-31T04:30:52.572		42.28	-9.97	45677.23	-22.75		
alpha	I	2034-08-31T04:31:35.900		42.42	-9.85	44689.66	-22.71		
4	I	2034-08-31T04:33:07.442		42.69	-9.59	42609.82	-22.63		
5	I	2034-08-31T04:33:25.194		42.75	-9.54	42201.83	-22.59		
6	I	2034-08-31T04:33:40.734		42.80	-9.49	41848.01	-22.59		
Uranus	I	2034-08-31T04:44:45.395		44.82	-7.59	25071.03		22.70	23.66
Uranus	E	2034-08-31T05:18:50.764		50.94	-1.58x	25329.27		-15.24	-15.92
6	E	2034-08-31T05:30:37.455		53.00	0.53x	41850.23	22.51		
5	E	2034-08-31T05:30:53.975		53.05	0.58x	42223.82	22.51		
4	E	2034-08-31T05:31:07.902		53.09	0.62x	42551.09	22.55		
alpha	E	2034-08-31T05:32:44.485		53.37	0.91x	44734.36	22.63		
beta	E	2034-08-31T05:33:24.547		53.48	1.03x	45641.20	22.66		
eta	E	2034-08-31T05:34:32.242		53.68	1.23x	47176.12	22.71		
gamma	E	2034-08-31T05:34:52.288		53.74	1.29x	47631.57	22.73		
delta	E	2034-08-31T05:35:21.702		53.82	1.38x	48300.35	22.75		
lambda	E	2034-08-31T05:36:37.516		54.04	1.61x	50026.71	22.79		
epsilon	E	2034-08-31T05:37:10.998		54.13	1.71x	50790.23	22.79		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-08-31T05:00:30.110
 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 : 3379766256931061760
 2Mass ID (if available) : 06400224+2324336
 ICRS Star Coord at Epoch: 06h 40m 02.23778s +23:24:33.24119s
 RUWE (>1.4 is poor) : 0.99
 K magnitude : 13.848
 G magnitude : 16.105
 RP magnitude : 0.000
 BP magnitude : 0.000
 DUPflag : 0
 Distance (au) : 19.422
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 22.09
 Sun-Target sep (deg) : 58.24
 Sun-Moon sep (deg) : 102.82
 B (ring opening deg) : 67.09
 PA of pole (deg) : 73.05
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 0.753
 C/A sky separation (km) : 10607.3
 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	2034-08-31T04:25:24.751		26.58	-29.52	51388.86	-23.07		
lambda	I	2034-08-31T04:26:23.742		26.79	-29.33	50026.71	-23.07		
delta	I	2034-08-31T04:27:38.627		27.06	-29.09	48300.35	-23.03		
gamma	I	2034-08-31T04:28:08.117		27.16	-28.99	47621.44	-23.01		
eta	I	2034-08-31T04:28:27.473		27.23	-28.93	47176.12	-23.00		
beta	I	2034-08-31T04:29:32.761		27.47	-28.72	45677.49	-22.96		
alpha	I	2034-08-31T04:30:15.694		27.62	-28.59	44690.06	-22.92		
4	I	2034-08-31T04:31:46.408		27.95	-28.29	42609.25	-22.85		
5	I	2034-08-31T04:32:03.861		28.01	-28.24	42203.58	-22.82		
6	I	2034-08-31T04:32:19.365		28.06	-28.19	41847.02	-22.82		
Uranus	I	2034-08-31T04:43:13.631		30.42	-26.06	25066.40		22.82	23.78
Uranus	E	2034-08-31T05:18:00.158		37.98	-19.06	25305.58		-16.03	-16.75
6	E	2034-08-31T05:29:33.285		40.50	-16.68	41849.08	22.71		
5	E	2034-08-31T05:29:49.807		40.57	-16.62	42226.05	22.70		
4	E	2034-08-31T05:30:03.470		40.61	-16.57	42549.97	22.74		
alpha	E	2034-08-31T05:31:39.346		40.96	-16.24	44735.15	22.80		
beta	E	2034-08-31T05:32:19.066		41.11	-16.10	45641.27	22.83		
eta	E	2034-08-31T05:33:26.269		41.36	-15.87	47176.12	22.87		
gamma	E	2034-08-31T05:33:46.175		41.43	-15.80	47631.57	22.89		
delta	E	2034-08-31T05:34:15.388		41.54	-15.70	48300.35	22.90		
lambda	E	2034-08-31T05:35:30.706		41.81	-15.44	50026.71	22.94		
epsilon	E	2034-08-31T05:36:04.174		41.93	-15.32	50794.73	22.94		

target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2034-08-31T05:02:50.940
 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 : 3379766256931061760
 2Mass ID (if available) : 06400224+2324336
 ICRS Star Coord at Epoch: 06h 40m 02.23778s +23:24:33.24119s
 RUWE (>1.4 is poor) : 0.99
 K magnitude : 13.848
 G magnitude : 16.105
 RP magnitude : 0.000
 BP magnitude : 0.000
 DUPflag : 0
 Distance (au) : 19.422
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 22.09
 Sun-Target sep (deg) : 58.24
 Sun-Moon sep (deg) : 102.64
 B (ring opening deg) : 67.09
 PA of pole (deg) : 73.05
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 0.284
 C/A sky separation (km) : 4002.0
 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	2034-08-31T04:26:29.712		25.79	-6.82	51430.95	-23.33		
lambda	I	2034-08-31T04:27:29.879		25.91	-6.61	50026.71	-23.34		
delta	I	2034-08-31T04:28:43.870		26.06	-6.35	48300.35	-23.33		
gamma	I	2034-08-31T04:29:12.986		26.11	-6.25	47621.17	-23.33		
eta	I	2034-08-31T04:29:32.067		26.15	-6.18	47176.12	-23.32		
beta	I	2034-08-31T04:30:36.329		26.28	-5.96	45679.07	-23.32		
alpha	I	2034-08-31T04:31:18.547		26.36	-5.81	44693.25	-23.31		
4	I	2034-08-31T04:32:48.005		26.53	-5.49	42604.74	-23.30		
5	I	2034-08-31T04:33:04.263		26.56	-5.44	42216.07	-23.28		
6	I	2034-08-31T04:33:20.301		26.59	-5.38	41840.06	-23.28		
Uranus	I	2034-08-31T04:43:52.134		27.77	-3.17x	25080.45		22.46	23.42
Uranus	E	2034-08-31T05:21:55.350		31.30	4.74x	25179.78		-19.82	-20.69
6	E	2034-08-31T05:32:42.619		32.08	6.96x	41842.50	23.22		
5	E	2034-08-31T05:32:59.582		32.10	7.02x	42238.60	23.22		
4	E	2034-08-31T05:33:12.195		32.11	7.06x	42544.03	23.23		
alpha	E	2034-08-31T05:34:46.546		32.22	7.38x	44739.31	23.24		
beta	E	2034-08-31T05:35:25.356		32.26	7.51x	45641.90	23.25		
eta	E	2034-08-31T05:36:31.399		32.33	7.74x	47176.12	23.25		
gamma	E	2034-08-31T05:36:50.986		32.35	7.81x	47631.54	23.25		
delta	E	2034-08-31T05:37:19.746		32.38	7.90x	48300.35	23.26		
lambda	E	2034-08-31T05:38:33.974		32.46	8.16x	50026.71	23.26		
epsilon	E	2034-08-31T05:39:08.199		32.49	8.27x	50822.82	23.25		