

target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2034-04-18T13:56:50.810  
 Event type : PgtRgt  
 : Uranus occs: geocentric, topocentric  
 : Ring occs: geocentric, topocentric  
 Gaia source ID : 3425480445720015104  
 2Mass ID (if available) : 06094170+2341234

Uranus 2034-04-18T13:56:50 K14.79 G16.58 PgtRgt

ICRS Star Coord at Epoch: 06h 09m 41.71236s +23:41:23.22443s

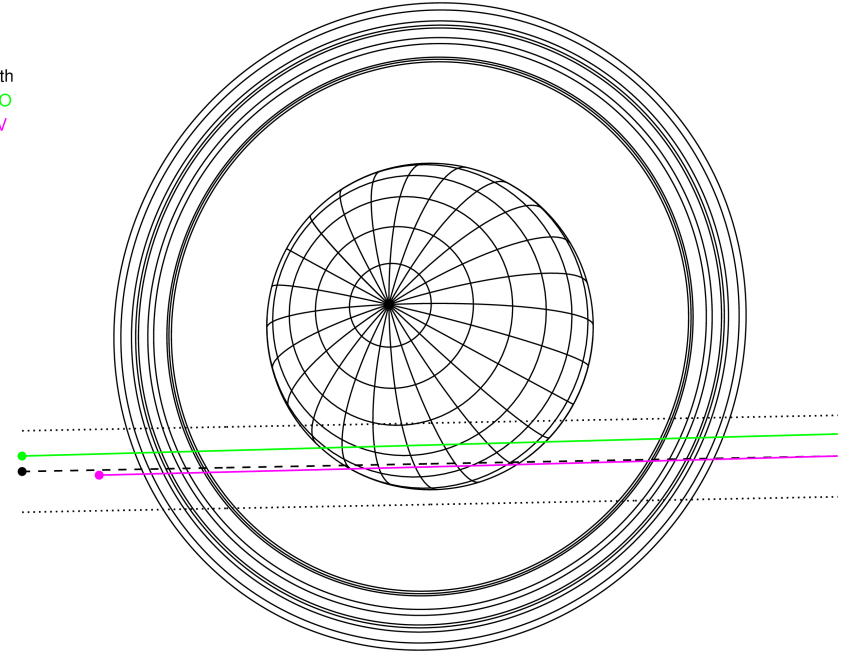
RUWE (>1.4 is poor) : 1.03  
 K magnitude : 14.791  
 G magnitude : 16.577  
 RP magnitude : 15.922  
 BP magnitude : 17.045  
 DUPflag : 0  
 Distance (au) : 19.351  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 19.40  
 Sun-Target sep (deg) : 64.08  
 Sun-Moon sep (deg) : 67.36  
 B (ring opening deg) : 73.42  
 PA of pole (deg) : 61.85

Uranus 2034-04-18T13:56:50 K14.79 G16.58  
 PgtRgt



2034-04-18T13:56:50.8100 α: 06 09 41.7124 δ: +23 41 23.224 C/A 1.525° PA 1.08 deg v\_sky +19.40 km/s D 19.35 AU  
 Credit: Styled after SORA/Lucky Star

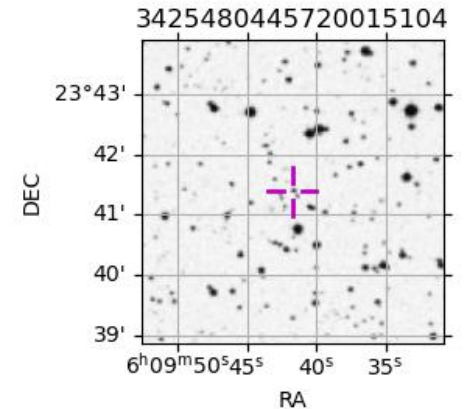
Earth  
 PMO  
 KAV



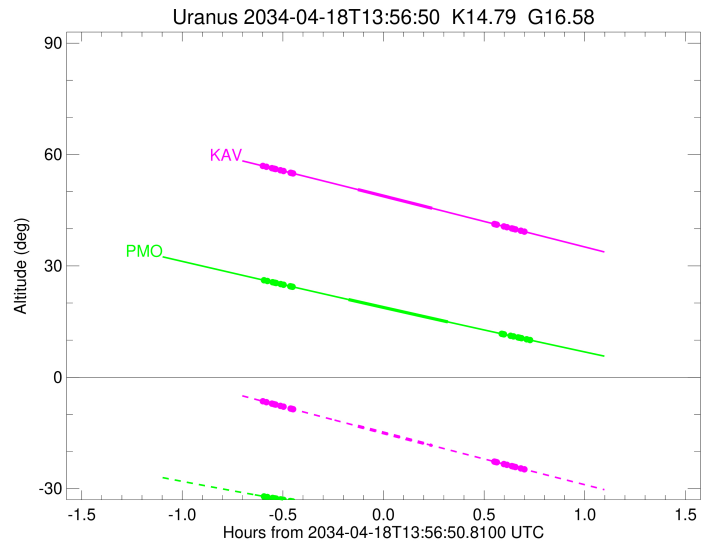
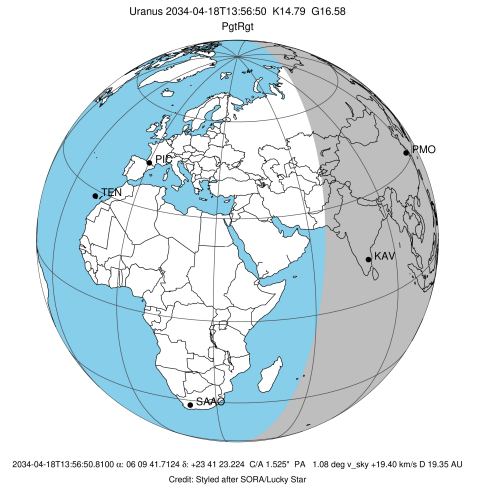
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon

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	+++++	+ +	+++++	APR 18 13:21 - APR 18 14:40	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 18 13:21 - APR 18 14:39	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

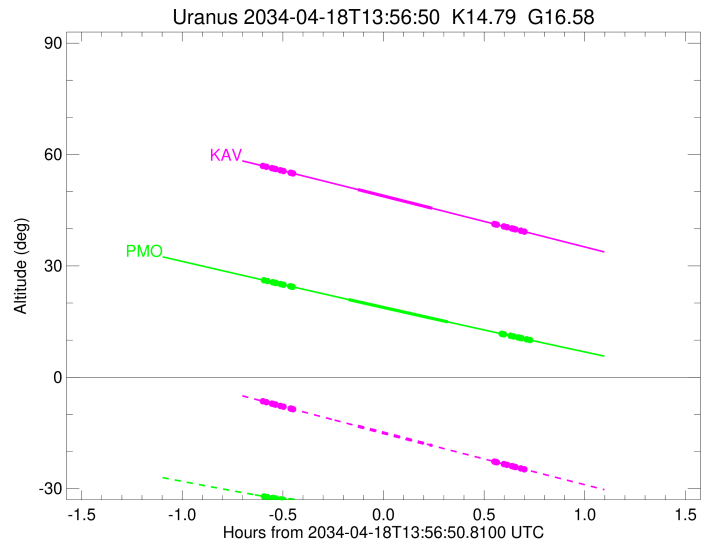
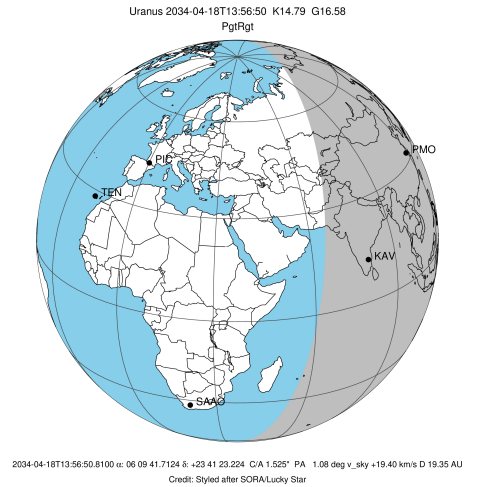


target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2034-04-18T14:01:32.060  
 Event type : PgtRgt  
 : Uranus occs: geocentric, topocentric  
 : Ring occs: geocentric, topocentric  
 Observer code : PMO  
 Location : Purple Mtn Obs. Nanking  
 Latitude (deg) : 32.06667  
 E. Longitude (deg) : 118.82089  
 Altitude (km) : 0.364  
 Gaia source ID : 3425480445720015104  
 2Mass ID (if available) : 06094170+2341234  
 ICRS Star Coord at Epoch: 06h 09m 41.71236s +23:41:23.22443s  
 RUWE (>1.4 is poor) : 1.03  
 K magnitude : 14.791  
 G magnitude : 16.577  
 RP magnitude : 15.922  
 BP magnitude : 17.045  
 DUPflag : 0  
 Distance (au) : 19.351  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 19.40  
 Sun-Target sep (deg) : 64.08  
 Sun-Moon sep (deg) : 67.99  
 B (ring opening deg) : 73.42  
 PA of pole (deg) : 61.85  
 Pole direction: RA (deg): 257.31100  
 Dec (deg): -15.17500  
 C/A sky separation (") : 1.322  
 C/A sky separation (km) : 18557.7  
 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\_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	2034-04-18T13:21:34.884		26.06	-32.16	50756.68	-18.49		
lambda	I	2034-04-18T13:22:14.386		25.92	-32.26	50026.71	-18.46		
delta	I	2034-04-18T13:23:48.184		25.60	-32.51	48300.35	-18.35		
gamma	I	2034-04-18T13:24:24.858		25.47	-32.61	47628.18	-18.30		
eta	I	2034-04-18T13:24:49.575		25.39	-32.68	47176.12	-18.27		
beta	I	2034-04-18T13:26:12.566		25.10	-32.89	45663.64	-18.16		
alpha	I	2034-04-18T13:27:06.732		24.91	-33.04	44684.89	-18.08		
4	I	2034-04-18T13:29:03.143		24.51	-33.34	42590.43	-17.88		
5	I	2034-04-18T13:29:21.099		24.45	-33.39	42261.27	-17.86		
6	I	2034-04-18T13:29:46.427		24.36	-33.45	41809.10	-17.79		
Uranus	I	2034-04-18T13:46:25.889		20.93	-35.96	25528.07		3.87	4.05
Uranus	E	2034-04-18T14:16:02.120		14.92	-39.94	25071.36		-15.75	-16.45
6	E	2034-04-18T14:32:03.941		11.71	-41.81	41828.38	17.91		
5	E	2034-04-18T14:32:29.083		11.62	-41.85	42279.33	17.98		
4	E	2034-04-18T14:32:42.651		11.58	-41.88	42527.00	18.00		
alpha	E	2034-04-18T14:34:44.699		11.18	-42.09	44743.55	18.21		
beta	E	2034-04-18T14:35:35.847		11.01	-42.19	45674.43	18.30		
eta	E	2034-04-18T14:36:57.658		10.74	-42.33	47176.12	18.41		
gamma	E	2034-04-18T14:37:21.819		10.66	-42.37	47621.36	18.45		
delta	E	2034-04-18T14:37:58.581		10.53	-42.43	48300.35	18.49		
lambda	E	2034-04-18T14:39:31.635		10.23	-42.59	50026.71	18.61		
epsilon	E	2034-04-18T14:40:43.271		9.99	-42.71	51362.67	18.64		

target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2034-04-18T14:00:37.310  
 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 : 3425480445720015104  
 2Mass ID (if available) : 06094170+2341234  
 ICRS Star Coord at Epoch: 06h 09m 41.71236s +23:41:23.22443s  
 RUWE (>1.4 is poor) : 1.03  
 K magnitude : 14.791  
 G magnitude : 16.577  
 RP magnitude : 15.922  
 BP magnitude : 17.045  
 DUPflag : 0  
 Distance (au) : 19.351  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 19.40  
 Sun-Target sep (deg) : 64.08  
 Sun-Moon sep (deg) : 68.32  
 B (ring opening deg) : 73.42  
 PA of pole (deg) : 61.85  
 Pole direction: RA (deg): 257.31100  
 Dec (deg): -15.17500  
 C/A sky separation (") : 1.566  
 C/A sky separation (km) : 21973.1  
 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	2034-04-18T13:21:16.129		56.85	-6.56	50750.32	-17.64		
lambda	I	2034-04-18T13:21:57.193		56.69	-6.72	50026.71	-17.59		
delta	I	2034-04-18T13:23:35.761		56.33	-7.11	48300.35	-17.43		
gamma	I	2034-04-18T13:24:14.409		56.18	-7.26	47627.79	-17.37		
eta	I	2034-04-18T13:24:40.447		56.09	-7.37	47176.12	-17.32		
beta	I	2034-04-18T13:26:08.041		55.76	-7.71	45665.28	-17.16		
alpha	I	2034-04-18T13:27:05.487		55.55	-7.94	44685.38	-17.04		
4	I	2034-04-18T13:29:09.630		55.08	-8.43	42586.63	-16.75		
5	I	2034-04-18T13:29:28.218		55.01	-8.51	42268.10	-16.72		
6	I	2034-04-18T13:29:55.882		54.91	-8.61	41806.26	-16.63		
Uranus	I	2034-04-18T13:49:12.339		50.56	-13.18	25558.80		0.31	0.33
Uranus	E	2034-04-18T14:11:19.948		45.53	-18.39	25162.19		-14.13	-14.77
6	E	2034-04-18T14:29:52.641		41.29	-22.71	41824.46	16.72		
5	E	2034-04-18T14:30:20.163		41.19	-22.82	42285.42	16.81		
4	E	2034-04-18T14:30:34.354		41.13	-22.88	42526.28	16.84		
alpha	E	2034-04-18T14:32:44.295		40.64	-23.38	44741.45	17.14		
beta	E	2034-04-18T14:33:38.740		40.43	-23.59	45675.67	17.26		
eta	E	2034-04-18T14:35:05.237		40.10	-23.92	47176.12	17.43		
gamma	E	2034-04-18T14:35:30.739		40.00	-24.02	47621.21	17.48		
delta	E	2034-04-18T14:36:09.522		39.85	-24.17	48300.35	17.55		
lambda	E	2034-04-18T14:37:47.454		39.48	-24.55	50026.71	17.71		
epsilon	E	2034-04-18T14:39:01.178		39.20	-24.83	51336.36	17.76		