

target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2034-03-28T15:32:07.310  
 Event type : PgtRgt  
 : Uranus occs: geocentric, topocentric  
 : Ring occs: geocentric, topocentric  
 Gaia source ID : 3425398635182550528  
 2Mass ID (if available) : 06072456+2341583

Uranus 2034-03-28T15:32:07 K12.74 G14.40 PgtRgt

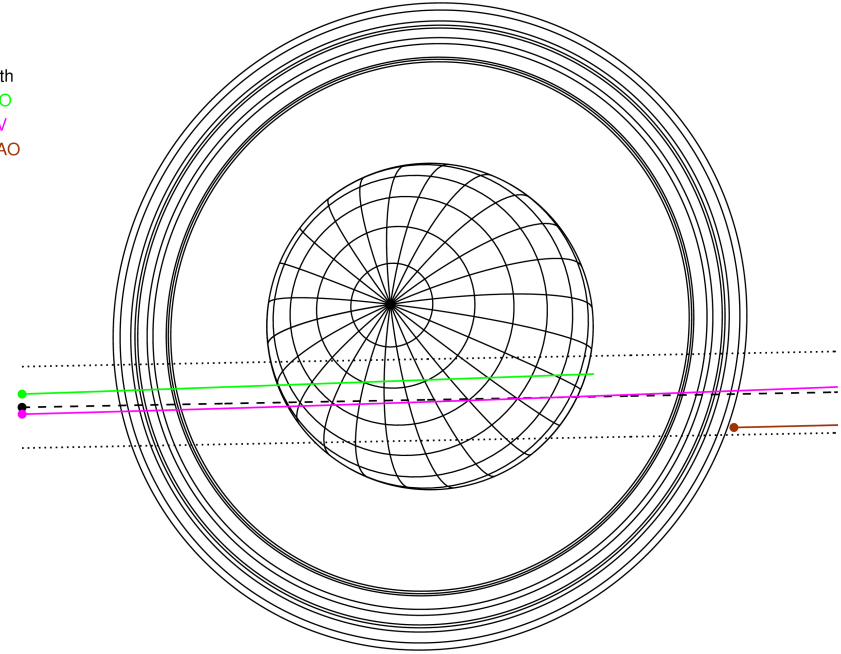
ICRS Star Coord at Epoch: 06h 07m 24.55758s +23:41:58.21585s

RUWE (>1.4 is poor) : 0.98  
 K magnitude : 12.743  
 G magnitude : 14.397  
 RP magnitude : 13.817  
 BP magnitude : 14.796  
 DUPflag : 0  
 Distance (au) : 19.013  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 9.42  
 Sun-Target sep (deg) : 84.14  
 Sun-Moon sep (deg) : 26.05  
 B (ring opening deg) : 73.87  
 PA of pole (deg) : 60.73



2034-03-28T15:32:07.3100 a: 06 07 24.55758 s: +23 41 58.216 C/A 0.824° PA 1.07 deg v\_sky + 9.43 km/s D 19.01 AU  
 Credit: Styled after SORA/Lucky Star

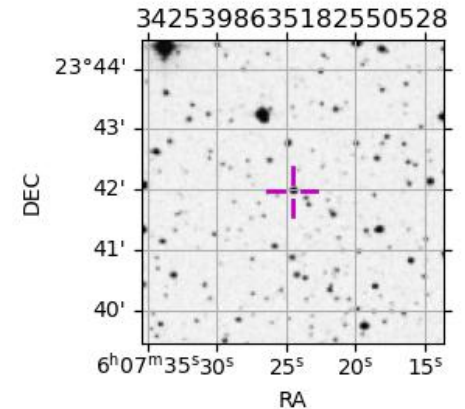
Earth  
 PMO  
 KAV  
 SAAO



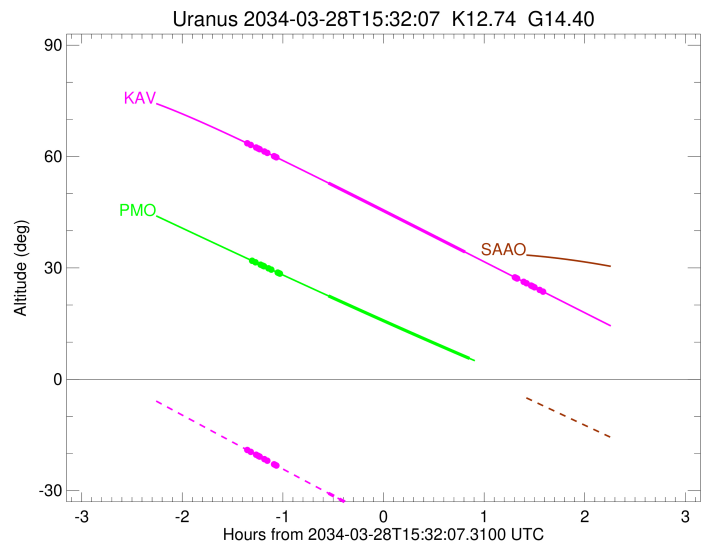
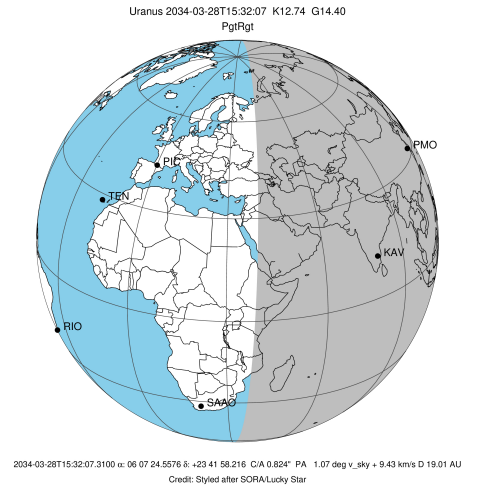
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon

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					PnnRnn
PAL	Palomar Mt (200")	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs. Nanki	32.1	118.8	+++++	+ +		MAR 28 14:14 - MAR 28 16:23	PieRin
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	+++++	+ +	+++++	MAR 28 14:11 - MAR 28 17:07	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

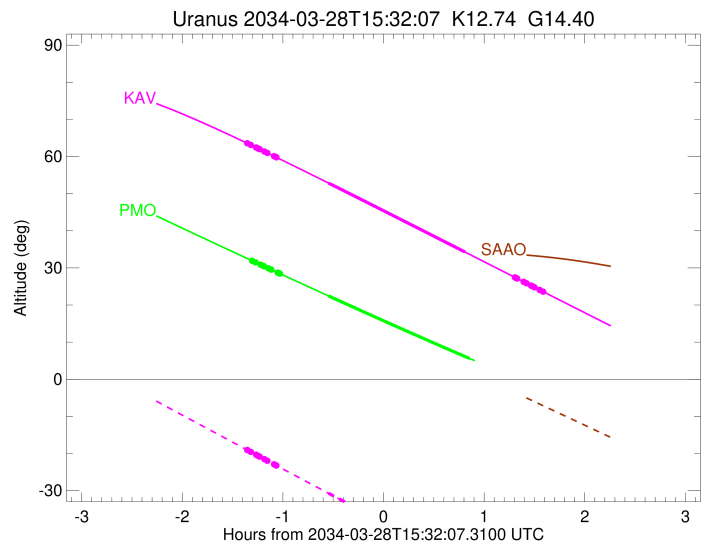
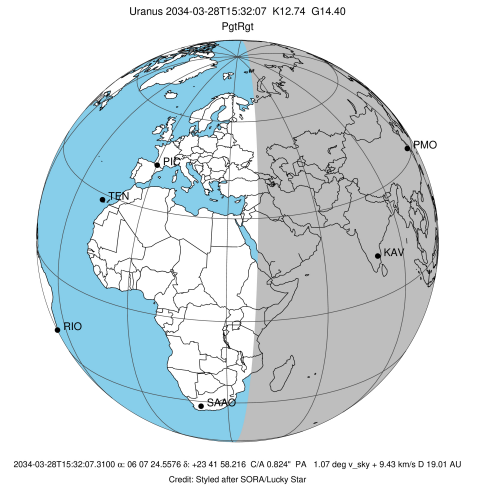


target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2034-03-28T15:41:48.620  
 Event type : PgtRgt  
 : Uranus occs: geocentric, topocentric  
 : Ring occs: geocentric, topocentric  
 Observer code : PMO  
 Location : Purple Mtn Obs. Nanking  
 Latitude (deg) : 32.06667  
 E. Longitude (deg) : 118.82089  
 Altitude (km) : 0.364  
 Gaia source ID : 3425398635182550528  
 2Mass ID (if available) : 06072456+2341583  
 ICRS Star Coord at Epoch: 06h 07m 24.55758s +23:41:58.21585s  
 RUWE (>1.4 is poor) : 0.98  
 K magnitude : 12.743  
 G magnitude : 14.397  
 RP magnitude : 13.817  
 BP magnitude : 14.796  
 DUPflag : 0  
 Distance (au) : 19.013  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 9.42  
 Sun-Target sep (deg) : 84.14  
 Sun-Moon sep (deg) : 25.55  
 B (ring opening deg) : 73.87  
 PA of pole (deg) : 60.73  
 Pole direction: RA (deg): 257.31100  
 Dec (deg): -15.17500  
 C/A sky separation (") : 0.605  
 C/A sky separation (km) : 8341.8  
 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	2034-03-28T14:14:32.012		31.77	-45.54	50743.86	-9.38		
lambda	I	2034-03-28T14:15:48.439		31.50	-45.73	50026.71	-9.38		
delta	I	2034-03-28T14:18:52.471		30.86	-46.17	48300.35	-9.38		
gamma	I	2034-03-28T14:20:04.385		30.61	-46.34	47625.96	-9.38		
eta	I	2034-03-28T14:20:52.363		30.44	-46.45	47176.12	-9.38		
beta	I	2034-03-28T14:23:32.715		29.88	-46.82	45673.17	-9.37		
alpha	I	2034-03-28T14:25:17.567		29.52	-47.06	44692.48	-9.37		
4	I	2034-03-28T14:29:04.877		28.73	-47.57	42559.21	-9.35		
5	I	2034-03-28T14:29:32.118		28.63	-47.64	42305.17	-9.36		
6	I	2034-03-28T14:30:26.765		28.44	-47.76	41794.91	-9.35		
Uranus	I	2034-03-28T14:59:16.817		22.47	-51.15	25336.44		10.17	10.64
Uranus	E	2034-03-28T16:23:23.610		5.61	-54.76	25040.73		-15.78	-16.48
6	E	2034-03-28T16:51:10.730		0.31x	-53.54	41874.56	9.64		
5	E	2034-03-28T16:51:43.162		0.21x	-53.51	42185.89	9.65		
4	E	2034-03-28T16:52:23.135		0.08x	-53.46	42565.06	9.65		
alpha	E	2034-03-28T16:56:08.493		-0.62x	-53.20	44750.79	9.68		
beta	E	2034-03-28T16:57:41.977		-0.91x	-53.09	45655.84	9.69		
eta	E	2034-03-28T17:00:18.749		-1.39x	-52.89	47176.12	9.71		
gamma	E	2034-03-28T17:01:04.943		-1.54x	-52.83	47624.68	9.71		
delta	E	2034-03-28T17:02:14.484		-1.75x	-52.74	48300.35	9.72		
lambda	E	2034-03-28T17:05:11.951		-2.30x	-52.50	50026.71	9.74		
epsilon	E	2034-03-28T17:07:47.043		-2.78x	-52.28	51537.76	9.75		

target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2034-03-28T15:40:36.600  
 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 : 3425398635182550528  
 2Mass ID (if available) : 06072456+2341583  
 ICRS Star Coord at Epoch: 06h 07m 24.55758s +23:41:58.21585s  
 RUWE (>1.4 is poor) : 0.98  
 K magnitude : 12.743  
 G magnitude : 14.397  
 RP magnitude : 13.817  
 BP magnitude : 14.796  
 DUPflag : 0  
 Distance (au) : 19.013  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 9.42  
 Sun-Target sep (deg) : 84.14  
 Sun-Moon sep (deg) : 25.75  
 B (ring opening deg) : 73.87  
 PA of pole (deg) : 60.73  
 Pole direction: RA (deg): 257.31100  
 Dec (deg): -15.17500  
 C/A sky separation (") : 0.855  
 C/A sky separation (km) : 11786.4  
 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\_itrfr93\_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	2034-03-28T14:11:40.219		63.40	-19.24	50745.85	-8.99		
lambda	I	2034-03-28T14:13:00.213		63.11	-19.56	50026.71	-8.99		
delta	I	2034-03-28T14:16:12.480		62.42	-20.34	48300.35	-8.97		
gamma	I	2034-03-28T14:17:27.725		62.15	-20.64	47625.59	-8.96		
eta	I	2034-03-28T14:18:17.879		61.97	-20.84	47176.12	-8.96		
beta	I	2034-03-28T14:21:05.649		61.36	-21.52	45674.34	-8.94		
alpha	I	2034-03-28T14:22:55.516		60.96	-21.96	44694.22	-8.93		
4	I	2034-03-28T14:26:54.837		60.08	-22.92	42555.71	-8.90		
5	I	2034-03-28T14:27:22.649		59.98	-23.03	42308.11	-8.90		
6	I	2034-03-28T14:28:20.461		59.77	-23.27	41794.75	-8.89		
Uranus	I	2034-03-28T14:59:18.554		52.86	-30.70	25410.53		8.27	8.66
Uranus	E	2034-03-28T16:20:45.957		34.27	-49.84	25020.32		-16.10	-16.82
6	E	2034-03-28T16:50:29.520		27.45	-56.51	41872.70	9.14		
5	E	2034-03-28T16:51:04.544		27.32	-56.63	42191.40	9.15		
4	E	2034-03-28T16:51:45.816		27.16	-56.78	42561.34	9.16		
alpha	E	2034-03-28T16:55:43.554		26.25	-57.65	44751.52	9.21		
beta	E	2034-03-28T16:57:21.877		25.87	-58.00	45657.36	9.22		
eta	E	2034-03-28T17:00:06.348		25.24	-58.59	47176.12	9.25		
gamma	E	2034-03-28T17:00:54.777		25.06	-58.77	47624.31	9.26		
delta	E	2034-03-28T17:02:07.749		24.78	-59.03	48300.35	9.27		
lambda	E	2034-03-28T17:05:13.703		24.07	-59.69	50026.71	9.30		
epsilon	E	2034-03-28T17:07:55.068		23.45	-60.26	51528.79	9.31		