

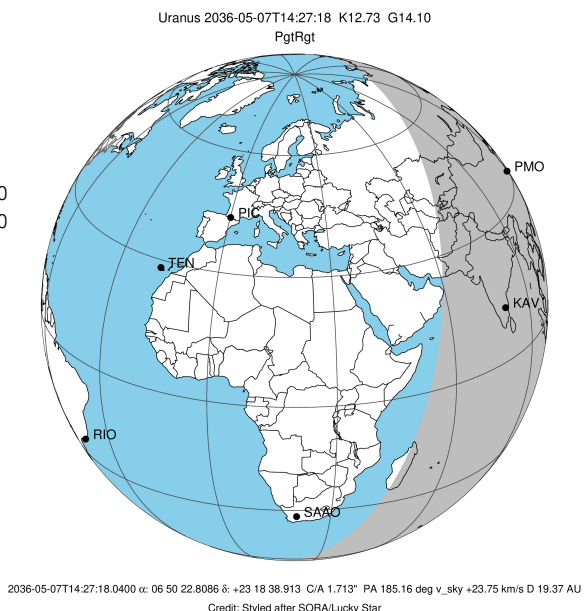
target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2036-05-07T14:27:18.040  
 Event type : PgtRgt  
 : Uranus occs: geocentric, topocentric  
 : Ring occs: geocentric, topocentric  
 Gaia source ID : 3379576316296534528  
 2Mass ID (if available) : 06502280+2318391

ICRS Star Coord at Epoch: 06h 50m 22.80862s +23:18:38.91305s

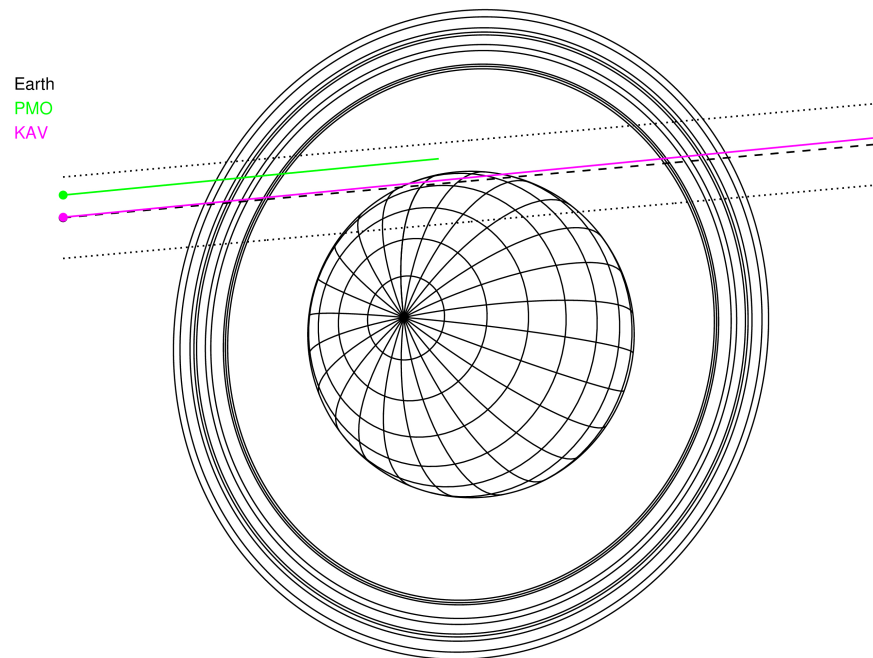
RUWE (>1.4 is poor) : 1.06  
 K magnitude : 12.726  
 G magnitude : 14.103  
 RP magnitude : 13.625  
 BP magnitude : 14.418  
 DUPflag : 0  
 Distance (au) : 19.374  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 23.75  
 Sun-Target sep (deg) : 54.44  
 Sun-Moon sep (deg) : 91.69  
 B (ring opening deg) : 64.83  
 PA of pole (deg) : 75.72

# 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

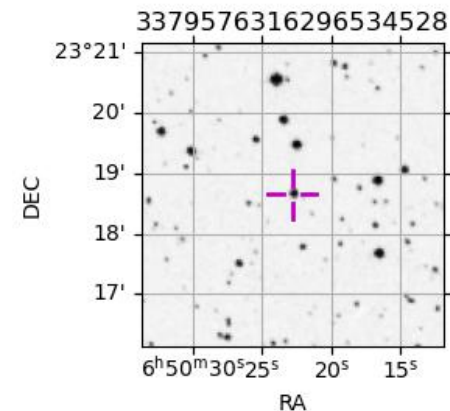


Uranus 2036-05-07T14:27:18 K12.73 G14.10 PgtRgt

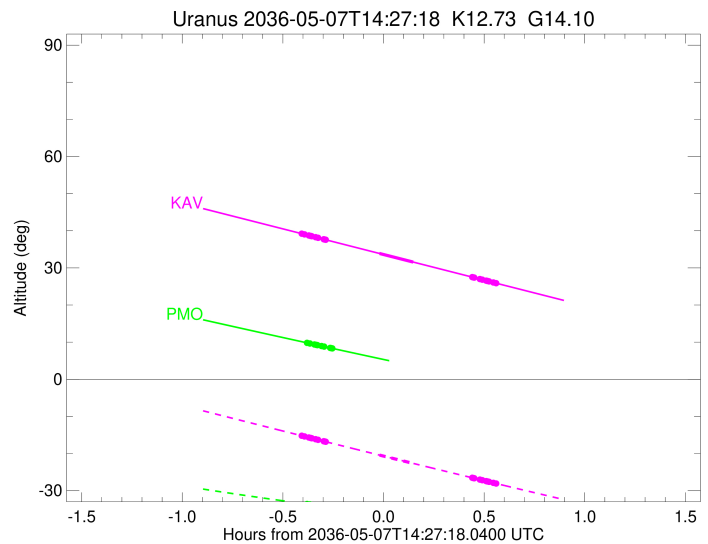
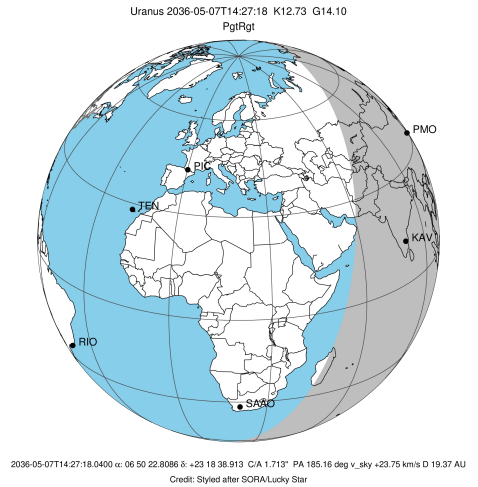


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEncode
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 07 14:04 - MAY 07 14:12	PnnRin
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 07 14:03 - MAY 07 15:01	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 : 2036-05-07T14:30:40.960  
 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 : 3379576316296534528  
 2Mass ID (if available) : 06502280+2318391  
 ICRS Star Coord at Epoch: 06h 50m 22.80862s +23:18:38.91305s  
 RUWE (>1.4 is poor) : 1.06  
 K magnitude : 12.726  
 G magnitude : 14.103  
 RP magnitude : 13.625  
 BP magnitude : 14.418  
 DUPflag : 0  
 Distance (au) : 19.374  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 23.75  
 Sun-Target sep (deg) : 54.44  
 Sun-Moon sep (deg) : 91.81  
 B (ring opening deg) : 64.83  
 PA of pole (deg) : 75.72  
 Pole direction: RA (deg): 257.31100  
 Dec (deg): -15.17500  
 C/A sky separation (") : 1.984  
 C/A sky separation (km) : 27883.6  
 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

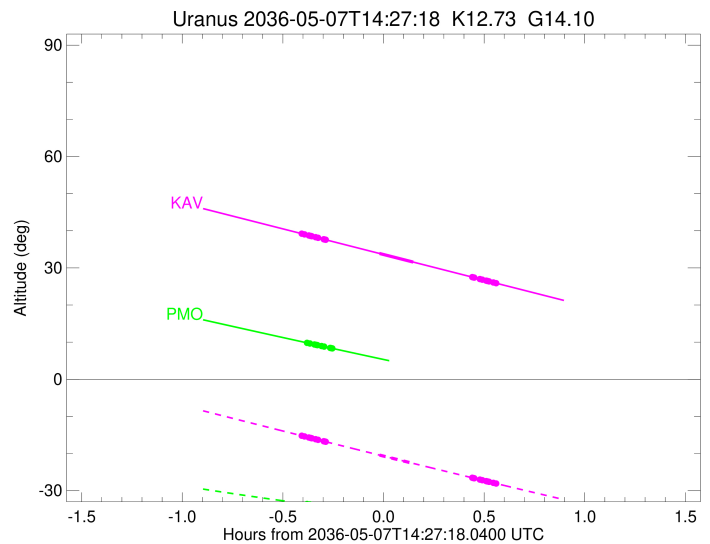
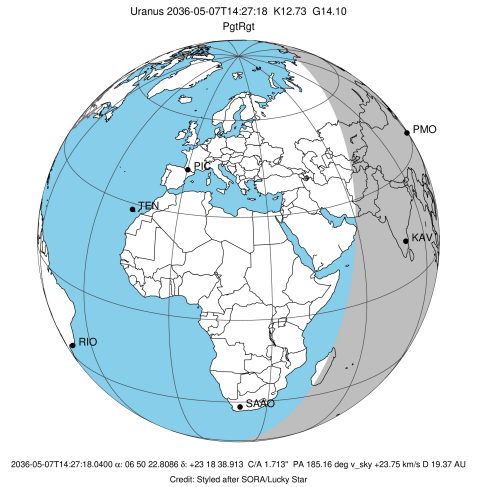


Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2036-05-07T14:04:49.005		9.75	-33.64	50753.65	-21.64		
lambda	I	2036-05-07T14:05:22.744		9.64	-33.71	50026.71	-21.47		
delta	I	2036-05-07T14:06:43.810		9.37	-33.87	48300.35	-21.11		
gamma	I	2036-05-07T14:07:16.040		9.26	-33.93	47622.47	-20.95		
eta	I	2036-05-07T14:07:37.396		9.19	-33.97	47176.12	-20.85		
beta	I	2036-05-07T14:08:51.316		8.95	-34.12	45647.84	-20.45		
alpha	I	2036-05-07T14:09:36.529		8.80	-34.20	44726.83	-20.17		
4	I	2036-05-07T14:11:27.907		8.43	-34.41	42531.40	-19.46		
5	I	2036-05-07T14:11:39.302		8.40	-34.44	42311.68	-19.41		
6	I	2036-05-07T14:12:06.172		8.31	-34.49	41800.20	-19.21		

No planet occultations

6	E	2036-05-07T14:51:35.968		0.68x	-38.26	41861.42	19.28		
5	E	2036-05-07T14:51:55.539		0.61x	-38.28	42249.75	19.48		
4	E	2036-05-07T14:52:11.587		0.56x	-38.30	42554.69	19.53		
alpha	E	2036-05-07T14:53:58.707		0.23x	-38.44	44684.64	20.25		
beta	E	2036-05-07T14:54:47.360		0.07x	-38.50	45678.94	20.53		
eta	E	2036-05-07T14:55:59.530		-0.15x	-38.59	47176.12	20.93		
gamma	E	2036-05-07T14:56:21.202		-0.22x	-38.61	47630.95	21.04		
delta	E	2036-05-07T14:56:52.895		-0.32x	-38.65	48300.35	21.20		
lambda	E	2036-05-07T14:58:13.612		-0.57x	-38.75	50026.71	21.57		
epsilon	E	2036-05-07T14:59:16.237		-0.77x	-38.82	51385.86	21.74		

target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2036-05-07T14:30:55.040  
 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 : 3379576316296534528  
 2Mass ID (if available) : 06502280+2318391  
 ICRS Star Coord at Epoch: 06h 50m 22.80862s +23:18:38.91305s  
 RUWE (>1.4 is poor) : 1.06  
 K magnitude : 12.726  
 G magnitude : 14.103  
 RP magnitude : 13.625  
 BP magnitude : 14.418  
 DUPflag : 0  
 Distance (au) : 19.374  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 23.75  
 Sun-Target sep (deg) : 54.44  
 Sun-Moon sep (deg) : 92.26  
 B (ring opening deg) : 64.83  
 PA of pole (deg) : 75.72  
 Pole direction: RA (deg): 257.31100  
 Dec (deg): -15.17500  
 C/A sky separation (") : 1.742  
 C/A sky separation (km) : 24477.1  
 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	2036-05-07T14:03:13.805		39.15	-15.28	50747.73	-22.43		
lambda	I	2036-05-07T14:03:46.046		39.03	-15.40	50026.71	-22.31		
delta	I	2036-05-07T14:05:03.871		38.73	-15.70	48300.35	-22.05		
gamma	I	2036-05-07T14:05:34.707		38.61	-15.81	47622.16	-21.94		
eta	I	2036-05-07T14:05:55.075		38.53	-15.89	47176.12	-21.86		
beta	I	2036-05-07T14:07:05.416		38.26	-16.15	45646.49	-21.58		
alpha	I	2036-05-07T14:07:47.952		38.10	-16.31	44729.97	-21.38		
4	I	2036-05-07T14:09:32.509		37.70	-16.71	42533.86	-20.88		
5	I	2036-05-07T14:09:43.461		37.66	-16.75	42308.76	-20.85		
6	I	2036-05-07T14:10:08.308		37.56	-16.84	41798.18	-20.71		
Uranus	I	2036-05-07T14:26:07.448		33.88	-20.43	25395.82		14.24	14.88
Uranus	E	2036-05-07T14:36:07.278		31.58	-22.65	25557.51		1.34	1.40
6	E	2036-05-07T14:53:46.425		27.52	-26.54	41864.95	20.79		
5	E	2036-05-07T14:54:03.997		27.45	-26.60	42241.55	20.93		
4	E	2036-05-07T14:54:19.603		27.39	-26.66	42559.08	20.96		
alpha	E	2036-05-07T14:55:59.908		27.01	-27.02	44684.66	21.47		
beta	E	2036-05-07T14:56:45.921		26.83	-27.19	45679.72	21.67		
eta	E	2036-05-07T14:57:54.470		26.57	-27.44	47176.12	21.96		
gamma	E	2036-05-07T14:58:15.155		26.49	-27.51	47631.15	22.04		
delta	E	2036-05-07T14:58:45.443		26.37	-27.62	48300.35	22.15		
lambda	E	2036-05-07T15:00:02.900		26.07	-27.90	50026.71	22.42		
epsilon	E	2036-05-07T15:01:04.358		25.84	-28.13	51410.65	22.54		