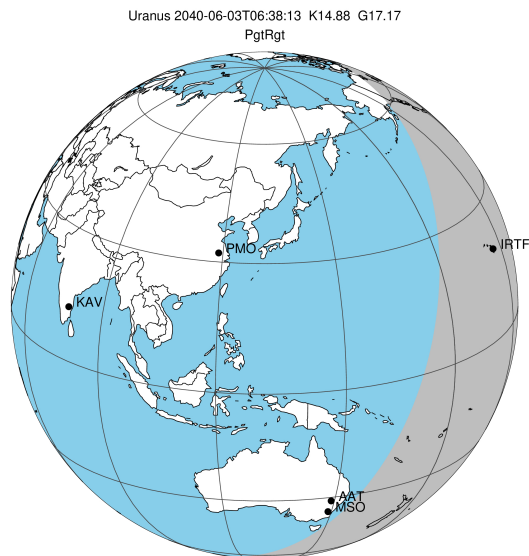


target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2040-06-03T06:38:13.120  
 Event type : PgtRgt  
 : Uranus occs: geocentric, topocentric  
 : Ring occs: geocentric, topocentric  
 Gaia source ID : 675910616963192960  
 2Mass ID (if available) : 08095882+2039266

ICRS Star Coord at Epoch: 08h 09m 58.81741s +20:39:26.61762s

RUWE (>1.4 is poor) : 0.96  
 K magnitude : 14.884  
 G magnitude : 17.169  
 RP magnitude : 16.476  
 BP magnitude : 17.751  
 DUPflag : 0  
 Distance (au) : 19.240  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 26.69  
 Sun-Target sep (deg) : 47.43  
 Sun-Moon sep (deg) : 122.46  
 B (ring opening deg) : 46.79  
 PA of pole (deg) : 90.41

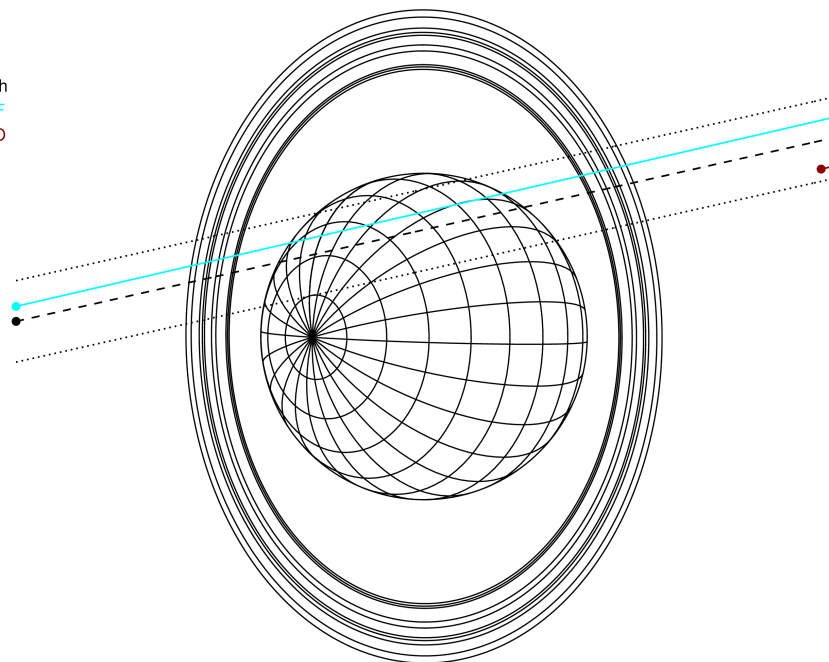
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2040-06-03T06:38:13.1200 ex: 08 09 58.8174 s: +20 39 26.618 C/A 1.177° PA 192.65 deg v\_sky +26.69 km/s D 19.24 AU  
 Credit: Styled after SORA/Lucky Star

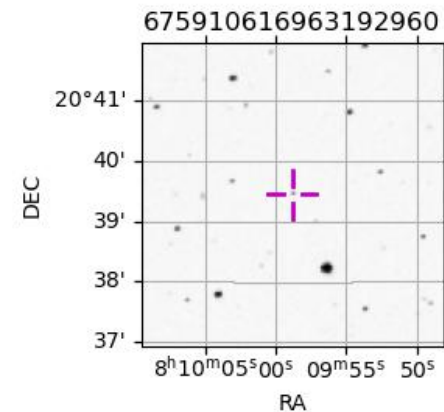
Uranus 2040-06-03T06:38:13 K14.88 G17.17 PgtRgt

Earth  
 IRTF  
 MSO

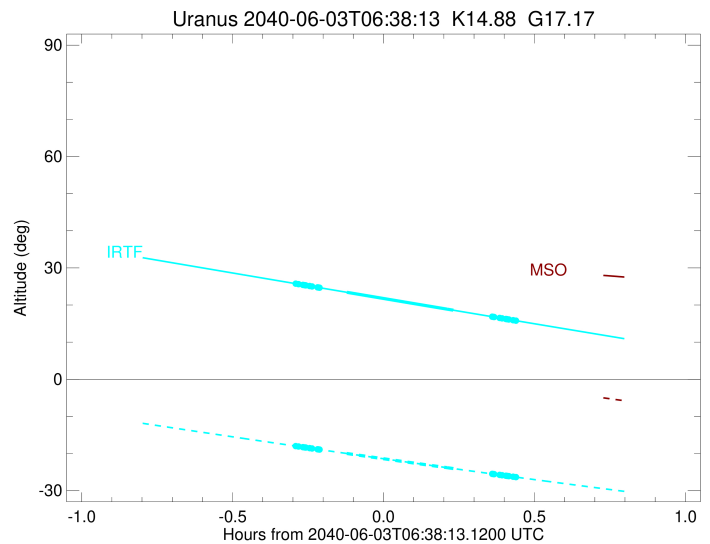
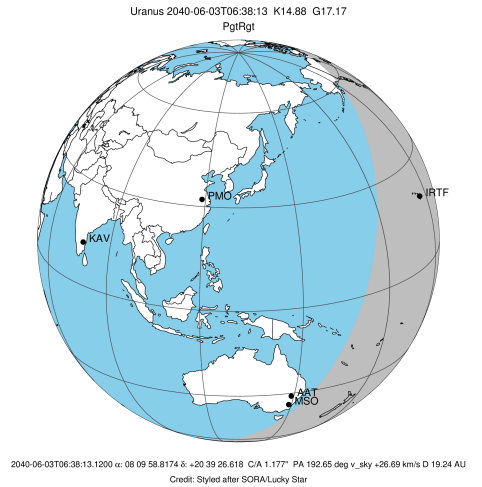


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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					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					PnnRnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+++++	+ +	+++++	JUN 03 06:20 - JUN 03 07:04	PieRie
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					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



target : Uranus  
 target radius (km) : 25559.00  
 C/A epoch : 2040-06-03T06:41:27.660  
 Event type : PgtRgt  
 : Uranus occs: geocentric, topocentric  
 : Ring occs: geocentric, topocentric  
 Observer code : IRTF  
 Location : Mauna Kea/IRTF  
 Latitude (deg) : 19.82622  
 E. Longitude (deg) : 204.52800  
 Altitude (km) : 4.168  
 Gaia source ID : 675910616963192960  
 2Mass ID (if available) : 08095882+2039266  
 ICRS Star Coord at Epoch: 08h 09m 58.81741s +20:39:26.61762s  
 RUWE (>1.4 is poor) : 0.96  
 K magnitude : 14.884  
 G magnitude : 17.169  
 RP magnitude : 16.476  
 BP magnitude : 17.751  
 DUPflag : 0  
 Distance (au) : 19.240  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : 26.69  
 Sun-Target sep (deg) : 47.43  
 Sun-Moon sep (deg) : 122.32  
 B (ring opening deg) : 46.79  
 PA of pole (deg) : 90.41  
 Pole direction: RA (deg): 257.31100  
 Dec (deg): -15.17500  
 C/A sky separation (") : 1.361  
 C/A sky separation (km) : 18997.4  
 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\_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	2040-06-03T06:20:39.076		25.78	-17.98	51409.98	-33.32		
lambda	I	2040-06-03T06:21:20.580		25.62	-18.12	50026.71	-33.25		
delta	I	2040-06-03T06:22:12.659		25.42	-18.29	48300.35	-33.04		
gamma	I	2040-06-03T06:22:33.012		25.34	-18.36	47628.72	-32.96		
eta	I	2040-06-03T06:22:46.758		25.29	-18.40	47176.12	-32.89		
beta	I	2040-06-03T06:23:32.430		25.12	-18.55	45681.20	-32.68		
alpha	I	2040-06-03T06:24:01.279		25.01	-18.64	44728.20	-32.50		
4	I	2040-06-03T06:25:07.342		24.76	-18.86	42604.81	-32.15		
5	I	2040-06-03T06:25:17.390		24.72	-18.89	42311.65	-32.13		
6	I	2040-06-03T06:25:28.677		24.67	-18.93	41877.98	-31.98		
Uranus	I	2040-06-03T06:30:56.193		23.43	-20.00	25354.65		33.67	34.90
Uranus	E	2040-06-03T06:52:05.936		18.61	-24.05	25484.29		-19.51	-20.36
6	E	2040-06-03T06:59:49.097		16.86	-25.49	41823.48	32.07		
5	E	2040-06-03T06:59:59.489		16.82	-25.52	42209.14	32.22		
4	E	2040-06-03T07:00:09.725		16.78	-25.55	42526.83	32.24		
alpha	E	2040-06-03T07:01:17.088		16.52	-25.76	44687.19	32.61		
beta	E	2040-06-03T07:01:46.156		16.41	-25.85	45649.06	32.78		
eta	E	2040-06-03T07:02:32.679		16.24	-25.99	47176.12	33.00		
gamma	E	2040-06-03T07:02:46.361		16.19	-26.03	47628.08	33.07		
delta	E	2040-06-03T07:03:06.665		16.11	-26.09	48300.35	33.16		
lambda	E	2040-06-03T07:03:58.565		15.92	-26.25	50026.71	33.37		
epsilon	E	2040-06-03T07:04:20.075		15.83	-26.32	50745.39	33.44		