

target : Saturn
 target radius (km) : 60268.00
 C/A epoch : 2046-05-06T14:47:39.620
 Event type : XRT
 : No Saturn occs
 : Ring occs: topocentric, not geocentric
 Gaia source ID : 4114864375140833152
 2Mass ID (if available) : 17235454-2136437

Saturn 2046-05-06T14:47:39 K9.01 G14.26 XRT

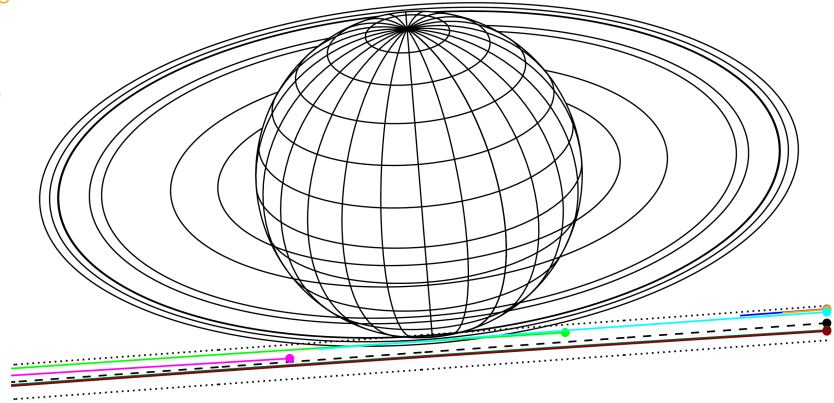
ICRS Star Coord at Epoch: 17h 23m 54.55095s -21:36:44.09450s

RUWE (>1.4 is poor) : 0.96
 K magnitude : 9.009
 G magnitude : 14.255
 RP magnitude : 12.959
 BP magnitude : 16.208
 DUPflag : 0
 Distance (au) : 9.198
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -14.52
 Sun-Target sep (deg) : 143.97
 Sun-Moon sep (deg) : 149.11
 B (ring opening deg) : 26.50
 PA of pole (deg) : 4.70



2046-05-06T14:47:39.6200 a: 17 23 54.5509 s -21 36 44.094 C/A 9.834" PA 4.14 deg v_sky -14.52 km/s D 09.20 AU
 Credit: Styled after SORA/Lucky Star

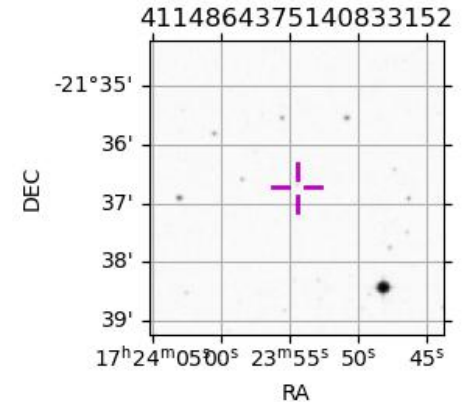
Earth
 PAL
 PMO
 KPNO
 IRTF
 KAV
 AAT
 MSO



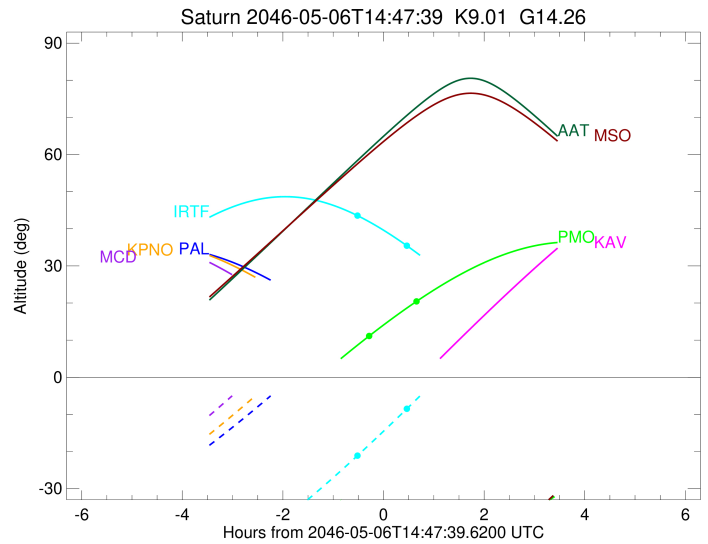
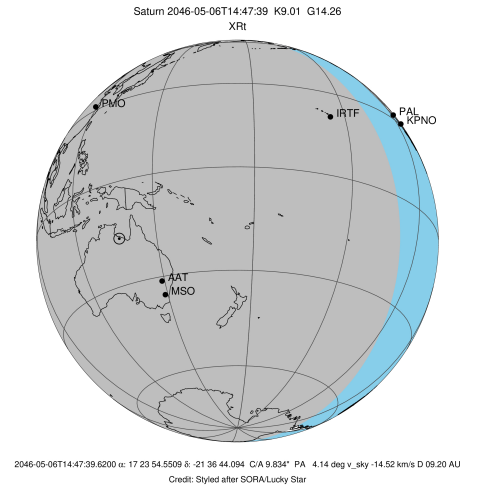
#	a(km)	ring
1	74490.6	C (IER)
2	91984.7	B (IER)
3	117571.2	B (OER)
4	122050.4	A (IER)
5	133423.3	Encke (IEG)
6	133744.9	Encke (OEG)
7	136774.4	A (OER)
8	140461.0	F ring

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 (20	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs	32.1	118.8	+			MAY 06 14:30 - MAY 06 15:27	PnnRie
KPNO	Kitt Peak Natl	32.0	248.4					PnnRnn
MCD	McDonald Obs.	30.7	256.0					PnnRnn
TEN	Teide Obs./Ten	28.3	343.5					PnnRnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+			MAY 06 14:16 - MAY 06 15:16	PnnRie
KAV	Kavalur Observ	12.6	78.8					PnnRnn
RIO	Rio de Janeiro	-22.9	316.8					PnnRnn
ESO	European South	-29.3	289.3					PnnRnn
AAT	Siding Spring	-31.3	149.1					PnnRnn
SAAO	So. Afr. Astro	-32.4	20.8					PnnRnn
MSO	Mt. Stromlo Ob	-35.3	149.0					PnnRnn



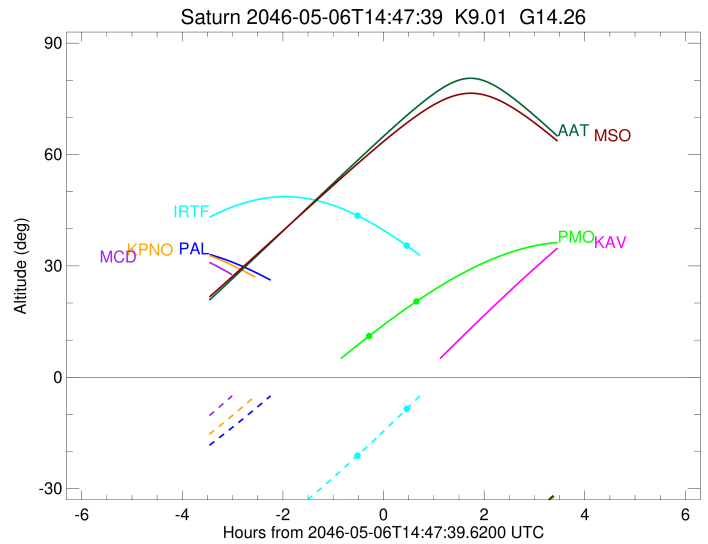
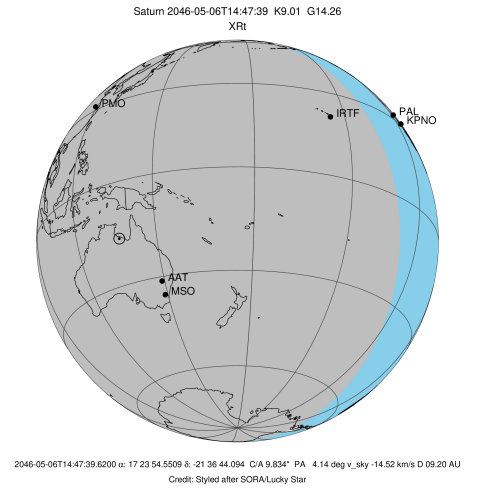
target : Saturn
 target radius (km) : 60268.00
 C/A epoch : 2046-05-06T14:53:41.830
 Event type : XRt
 : No Saturn occs
 : Ring occs: topocentric, not geocentric
 Observer code : PMO
 Location : Purple Mtn Obs. Nanking
 Latitude (deg) : 32.06667
 E. Longitude (deg) : 118.82089
 Altitude (km) : 0.364
 Gaia source ID : 4114864375140833152
 2Mass ID (if available) : 17235454-2136437
 ICRS Star Coord at Epoch: 17h 23m 54.55095s -21:36:44.09450s
 RUWE (>1.4 is poor) : 0.96
 K magnitude : 9.009
 G magnitude : 14.255
 RP magnitude : 12.959
 BP magnitude : 16.208
 DUPflag : 0
 Distance (au) : 9.198
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -14.52
 Sun-Target sep (deg) : 143.97
 Sun-Moon sep (deg) : 148.75
 B (ring opening deg) : 26.50
 PA of pole (deg) : 4.70
 Pole direction: RA (deg): 40.60000
 Dec (deg): 83.50000
 C/A sky separation (") : 9.239
 C/A sky separation (km) : 61632.3
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 Saturn_ring_plane.tf
 sat378.bsp
 sat286.bsp
 vgr1.sat286.bsp
 vgr2.sat286.bsp
 HST1081HSPephemUTC.bsp
 pfb10000r.bsp
 cassini.bsp
 earthstns_itrf93_040916.bsp
 earth_200101_990628_predict.bpc
 earth_720101_070426.bpc
 cpck28Mar2008.tpc
 pck.sat440.tpc
 IAU_SATURN_for_RINGFIT.tpc
 naif0012.tls
 earth_flat_IAU.spk



b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
F ring	I	2046-05-06T14:30:13.044		11.06	-36.74	140461.00	-2.67		
No planet occultations									
F ring	E	2046-05-06T15:27:40.043		20.53	-40.74	140461.00	2.69		

target : Saturn
 target radius (km) : 60268.00
 C/A epoch : 2046-05-06T14:44:25.620
 Event type : XRt
 : No Saturn occs
 : Ring occs: topocentric, not geocentric
 Observer code : IRTF
 Location : Mauna Kea/IRTF
 Latitude (deg) : 19.82622
 E. Longitude (deg) : 204.52800
 Altitude (km) : 4.168
 Gaia source ID : 4114864375140833152
 2Mass ID (if available) : 17235454-2136437
 ICRS Star Coord at Epoch: 17h 23m 54.55095s -21:36:44.09450s
 RUWE (>1.4 is poor) : 0.96
 K magnitude : 9.009
 G magnitude : 14.255
 RP magnitude : 12.959
 BP magnitude : 16.208
 DUPflag : 0
 Distance (au) : 9.198
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -14.52
 Sun-Target sep (deg) : 143.97
 Sun-Moon sep (deg) : 149.85
 B (ring opening deg) : 26.50
 PA of pole (deg) : 4.70
 Pole direction: RA (deg): 40.60000
 Dec (deg): 83.50000
 C/A sky separation (") : 9.215
 C/A sky separation (km) : 61474.0
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 Saturn_ring_plane.tf
 sat378.bsp
 sat286.bsp
 vgr1.sat286.bsp
 vgr2.sat286.bsp
 HST1081HSPephemUTC.bsp
 pfb10000r.bsp
 cassini.bsp
 earthstns_itrf93_040916.bsp
 earth_200101_990628_predict.bpc
 earth_720101_070426.bpc
 cpck28Mar2008.tpc
 pck.sat440.tpc
 IAU_SATURN_for_RINGFIT.tpc
 naif0012.tls
 earth_flat_IAU.spk



b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
F ring	I	2046-05-06T14:16:19.858		43.58	-21.18	140461.00	-2.87		
No planet occultations									
F ring	E	2046-05-06T15:16:05.225		35.35	-8.36	140461.00	2.87		