

target : Saturn
 target radius (km) : 60268.00
 C/A epoch : 2035-01-19T18:37:42.790
 Event type : XRT
 : No Saturn occs
 : Ring occs: topocentric, not geocentric
 Gaia source ID : 675600146664190976
 2Mass ID (if available) : 08154774+2010177

Saturn 2035-01-19T18:37:42 K9.20 G11.27 XRT

ICRS Star Coord at Epoch: 08h 15m 47.74526s +20:10:17.65157s

RUWE (>1.4 is poor) : 0.87
 K magnitude : 9.198
 G magnitude : 11.272
 RP magnitude : 10.618
 BP magnitude : 11.766
 DUPflag : 0
 Distance (au) : 8.092
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -20.11
 Sun-Target sep (deg) : 177.38
 Sun-Moon sep (deg) : 58.70
 B (ring opening deg) : -20.79
 PA of pole (deg) : -6.91

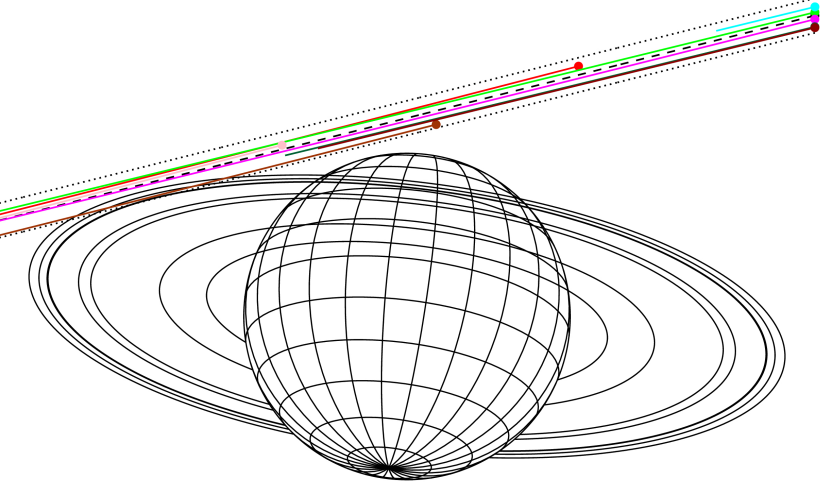
Saturn 2035-01-19T18:37:42 K9.20 G11.27 XRT



2035-01-19T18:37:42.7900 a: 08 15 47.7453 & +20 10 17.652 C/A ***** PA 194.10 deg v_sky -20.11 km/s D 08.09 AU
 Credit: Styled after SORA/Lucky Star

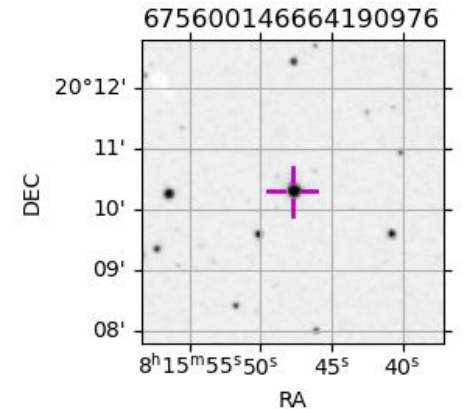
#	a(km)	ring
1	74490.6	C (IER)
2	91984.7	B (IER)
3	117571.2	B (OER)
4	122050.4	A (IER)
5	133423.3	Encke (IEG)
6	133744.9	Encke (OEG)
7	136774.4	A (OER)
8	140461.0	F ring

Earth
 PIC
 PMO
 TEN
 IRTF
 KAV
 AAT
 SAAO
 MSO



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

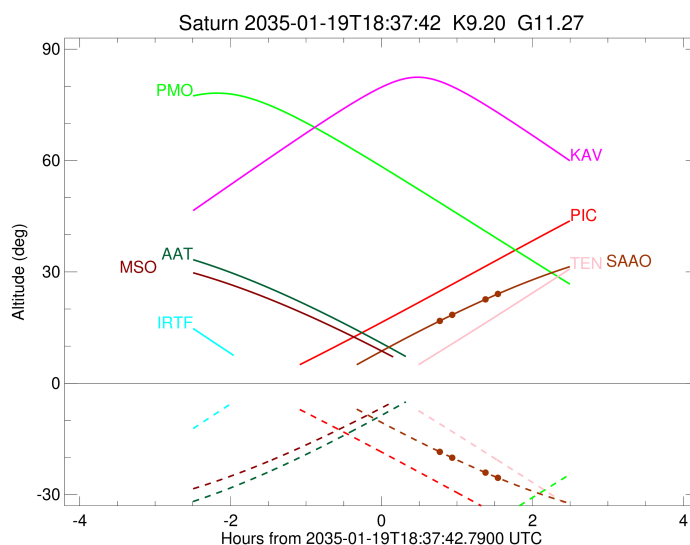
Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEncode
PIC	Pic du Midi	42.9	0.1					PnnRnn
PAL	Palomar Mt (20	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs	32.1	118.8					PnnRnn
KPNO	Kitt Peak Natl	32.0	248.4					PnnRnn
MCD	McDonald Obs.	30.7	256.0					PnnRnn
TEN	Teide Obs./Ten	28.3	343.5					PnnRnn
IRTF	Mauna Kea/IRTF	19.8	204.5					PnnRnn
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	+			JAN 19 19:23 - JAN 19 20:10	PnnRie
MSO	Mt. Stromlo Ob	-35.3	149.0			+		PnnRnn



target : Saturn
 target radius (km) : 60268.00
 C/A epoch : 2035-01-19T18:41:00.520
 Event type : XRt
 : No Saturn occs
 : Ring occs: topocentric, not geocentric
 Observer code : SAAO
 Location : So. Afr. Astro. Obs. (Sutherland)
 Latitude (deg) : -32.37953
 E. Longitude (deg) : 20.81070
 Altitude (km) : 1.768
 Gaia source ID : 675600146664190976
 2Mass ID (if available) : 08154774+2010177
 ICRS Star Coord at Epoch: 08h 15m 47.74526s +20:10:17.65157s
 RUWE (>1.4 is poor) : 0.87
 K magnitude : 9.198
 G magnitude : 11.272
 RP magnitude : 10.618
 BP magnitude : 11.766
 DUPflag : 0
 Distance (au) : 8.092
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -20.11
 Sun-Target sep (deg) : 177.38
 Sun-Moon sep (deg) : 58.47
 B (ring opening deg) : -20.79
 PA of pole (deg) : -6.91
 Pole direction: RA (deg): 40.60000
 Dec (deg): 83.50000
 C/A sky separation (") : 11.248
 C/A sky separation (km) : 66015.6
 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



2035-01-19T18:37:42.7900 u: 08 15 47.7453 s: +20 10 17.652 CIA ***** PA 194.10 deg v_sky -20.11 km/s D 08.09 AU
 Credit: Styled after SORA/Lucky Star



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	2035-01-19T19:23:52.970		16.76	-18.45	140461.00	-7.89		
A (OER)	I	2035-01-19T19:33:35.094		18.37	-20.00	136774.40	-4.73		
No planet occultations									
A (OER)	E	2035-01-19T20:00:45.128		22.65	-24.12	136774.40	4.73		
F ring	E	2035-01-19T20:10:27.115		24.09	-25.50	140461.00	7.90		