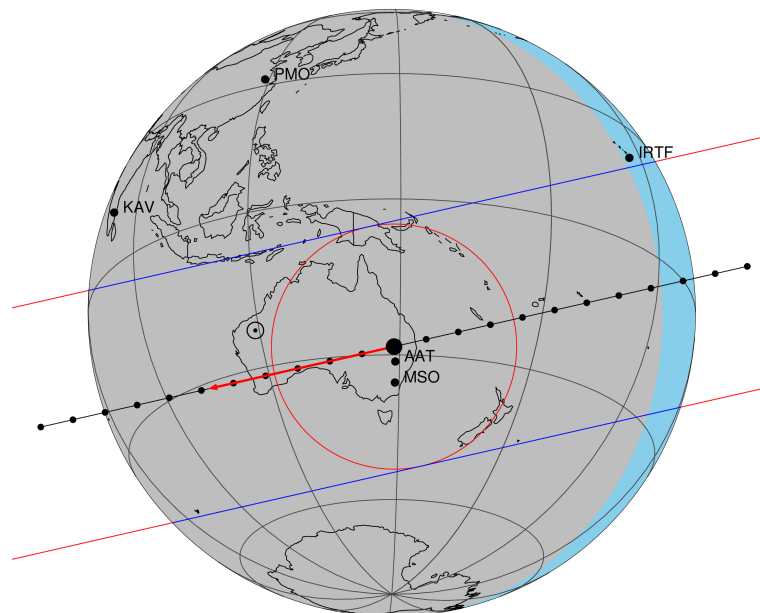


target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2048-06-07T16:02:29.200
 Event type : Pgt
 : Titan occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4081721864835037568
 2Mass ID (if available) : 18594800-2207124

ICRS Star Coord at Epoch: 18h 59m 47.96478s -22:07:12.69284s
 RUWE (>1.4 is poor) : 0.94
 K magnitude : 13.923
 G magnitude : 15.489
 RP magnitude : 14.912
 BP magnitude : 15.880
 DUPflag : 0
 Distance (au) : 9.130
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -11.53
 Sun-Target sep (deg) : 153.07
 Sun-Moon sep (deg) : 110.87
 B (ring opening deg) : 24.71
 PA of pole (deg) : 6.58
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.108
 C/A sky separation (km) : 716.4
 NAIF SPICE kernels : RAJobs_U111+rgf16.spk
 URKALLv1.spk
 naif0012.tls
 nep097.bsp
 nep101.bsp
 sat4401.bsp
 Observable events with sun below -5 deg and altitude above 5 deg

Titan 2048-06-07T16:02:29 K13.92 G15.49 dots 60.0 sec
 Pgt

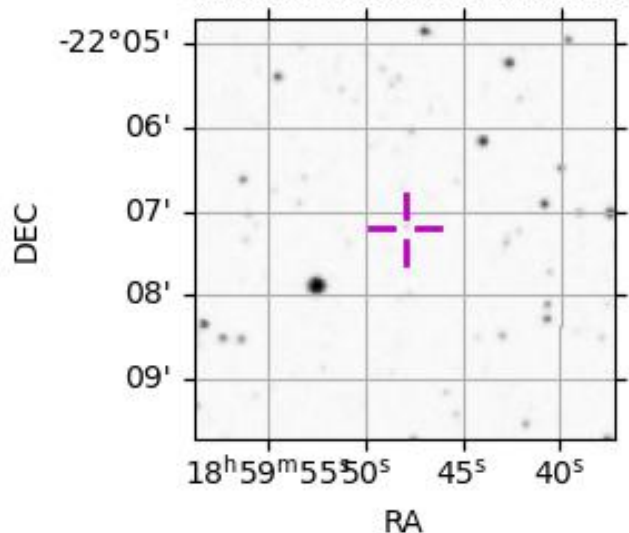


2048-06-07T16:02:29.2000 cc: 18 59 47.9648 s: -22 07 12.693 C/A 0.106" PA 167.18 deg v_sky -11.52 km/s D 09.13 AU
 Credit: Styled after SORA/Lucky Star

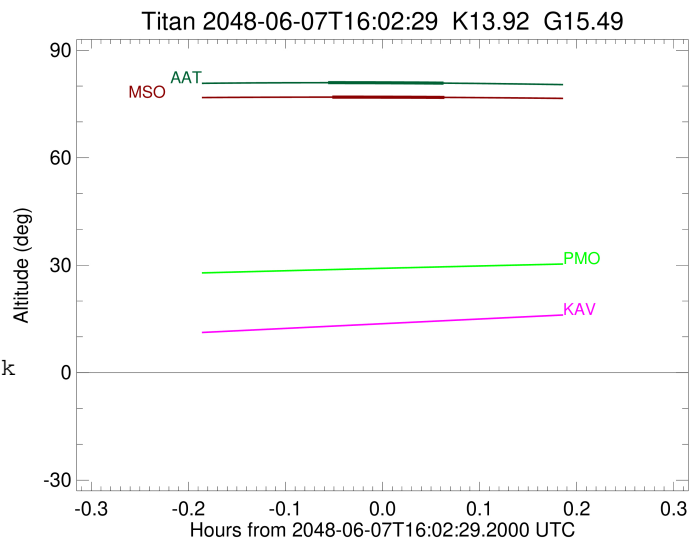
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1			Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4			Pnn
MCD	McDonald Obs. 2.7m	30.7	256.0			Pnn
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5			Pnn
KAV	Kavalur Observatory	12.6	78.8			Pnn
RIO	Rio de Janeiro	-22.9	316.8			Pnn
ESO	European Southern Obs. (3.6m)	-29.3	289.3			Pnn
AAT	Siding Spring (AAT)	-31.3	149.1	+ +	JUN 07 15:59 - JUN 07 16:06	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	JUN 07 15:59 - JUN 07 16:06	Pie

4081721864835037568



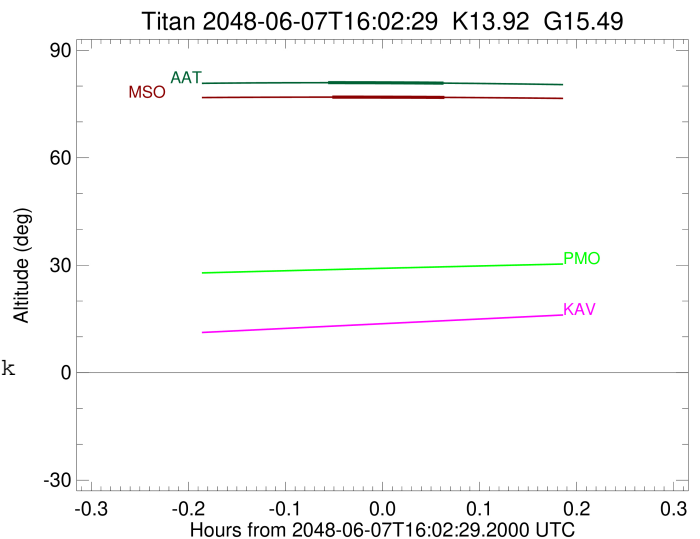
target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2048-06-07T16:02:42.130
 Event type : Pgt
 : Titan occs: geocentric, topocentric
 : Not a ringed target
 Observer code : AAT
 Location : Siding Spring (AAT)
 Latitude (deg) : -31.27703
 E. Longitude (deg) : 149.06608
 Altitude (km) : 1.164
 Gaia source ID : 4081721864835037568
 2Mass ID (if available) : 18594800-2207124
 ICRS Star Coord at Epoch: 18h 59m 47.96478s -22:07:12.69284s
 RUWE (>1.4 is poor) : 0.94
 K magnitude : 13.923
 G magnitude : 15.489
 RP magnitude : 14.912
 BP magnitude : 15.880
 DUPflag : 0
 Distance (au) : 9.130
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -11.53
 Sun-Target sep (deg) : 153.07
 Sun-Moon sep (deg) : 111.70
 B (ring opening deg) : 24.71
 PA of pole (deg) : 6.58
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.042
 C/A sky separation (km) : 279.0
 NAIF SPICE kernels : RAJobs_U111+rgf16.spk
 URKALLv1.spk
 naif0012.tls
 nep097.bsp
 nep101.bsp
 sat4401.bsp
 de440.bsp
 earth_720101_070426.bpc
 jup365.bsp
 urall6.bsp
 IAU_SATURN_for_RINGFIT.tpc
 pck00010.tpc
 earth_200101_990628_predict.bpc
 IAU_NEPTUNE_for_RINGFIT.tpc.BECAREFUL
 uranus_ringframes_rfrench20220627_v1.tf
 neptune_ringframes_rfrench20220702a_v1.tf
 earth_flat_IAU.spk



x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Titan	I	2048-06-07T15:59:07.225	80.94	-62.88	2575.1	-22.73	-22.74
Titan	E	2048-06-07T16:06:17.032	80.81	-61.37	2575.1	11.56	11.56

target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2048-06-07T16:02:50.980
 Event type : Pgt
 : Titan occs: geocentric, topocentric
 : Not a ringed target
 Observer code : MSO
 Location : Mt. Stromlo Observatory
 Latitude (deg) : -35.32000
 E. Longitude (deg) : 149.00833
 Altitude (km) : 0.770
 Gaia source ID : 4081721864835037568
 2Mass ID (if available) : 18594800-2207124
 ICRS Star Coord at Epoch: 18h 59m 47.96478s -22:07:12.69284s
 RUWE (>1.4 is poor) : 0.94
 K magnitude : 13.923
 G magnitude : 15.489
 RP magnitude : 14.912
 BP magnitude : 15.880
 DUPflag : 0
 Distance (au) : 9.130
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -11.53
 Sun-Target sep (deg) : 153.07
 Sun-Moon sep (deg) : 111.68
 B (ring opening deg) : 24.71
 PA of pole (deg) : 6.58
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.107
 C/A sky separation (km) : 705.9
 NAIF SPICE kernels : RAJobs_U111+rgf16.spk
 URKALLv1.spk
 naif0012.tls
 nep097.bsp
 nep101.bsp
 sat4401.bsp
 de440.bsp
 earth_720101_070426.bpc
 jup365.bsp
 urall6.bsp
 IAU_SATURN_for_RINGFIT.tpc
 pck00010.tpc
 earth_200101_990628_predict.bpc
 IAU_NEPTUNE_for_RINGFIT.tpc.BECAREFUL
 uranus_ringframes_rfrench20220627_v1.tf
 neptune_ringframes_rfrench20220702a_v1.tf
 earth_flat_IAU.spk



x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Titan	I	2048-06-07T15:59:22.774	76.91	-61.88	2575.1	-31.31	-31.32
Titan	E	2048-06-07T16:06:19.173	76.83	-60.52	2575.2	2.79	2.79