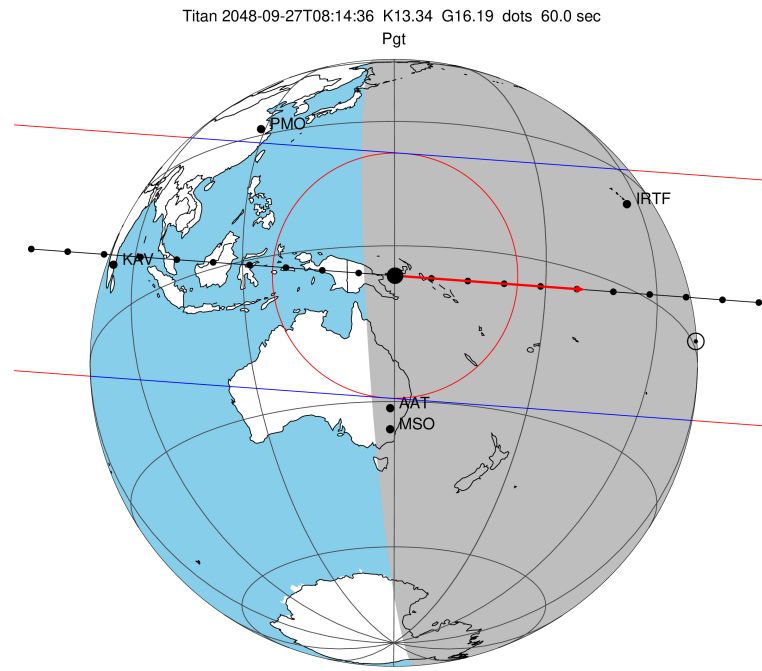


target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2048-09-27T08:14:36.290
 Event type : Pgt
 : Titan occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4079216107877015040
 2Mass ID (if available) : 18382637-2243575

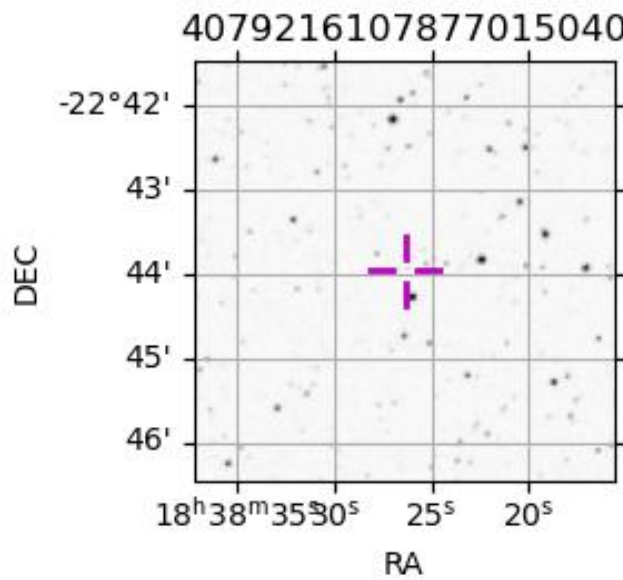
ICRS Star Coord at Epoch: 18h 38m 26.35437s -22:43:58.19642s
 RUWE (>1.4 is poor) : 1.03
 K magnitude : 13.343
 G magnitude : 16.191
 RP magnitude : 15.348
 BP magnitude : 16.915
 DUPflag : 0
 Distance (au) : 9.908
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 12.76
 Sun-Target sep (deg) : 94.63
 Sun-Moon sep (deg) : 145.23
 B (ring opening deg) : 25.88
 PA of pole (deg) : 6.33
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.256
 C/A sky separation (km) : 1842.5
 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

Obs	Location	lat	Elon	Target	Observed Events Interval	OEncode
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	+ +	SEP 27 08:18 - SEP 27 08:23	Pie
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			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



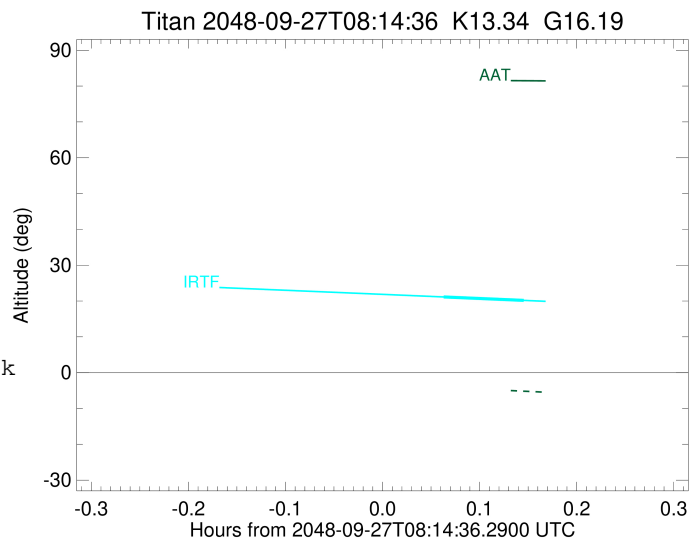
2048-09-27T08:14:36.2900 α: 18 38 26.3544 δ: -22 43 58.196 C/A 0.254" PA 4.20 deg v_sky +12.76 km/s D 09.91 AU
 Credit: Styled after SORA/Lucky Star



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2048-09-27T08:20:50.290
Event type            : Pgt
: Titan occs: geocentric, topocentric
: Not a ringed target
Observer code         : IRTF
Location              : Mauna Kea/IRTF
Latitude (deg)       : 19.82622
E. Longitude (deg)   : 204.52800
Altitude (km)        : 4.168
Gaia source ID       : 4079216107877015040
2Mass ID (if available) : 18382637-2243575
ICRS Star Coord at Epoch: 18h 38m 26.35437s -22:43:58.19642s
RUWE (>1.4 is poor) : 1.03
K magnitude           : 13.343
G magnitude           : 16.191
RP magnitude          : 15.348
BP magnitude          : 16.915
DUPflag              : 0
Distance (au)        : 9.908
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 12.76
Sun-Target sep (deg) : 94.63
Sun-Moon sep (deg)   : 146.04
B (ring opening deg) : 25.88
PA of pole (deg)     : 6.33
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.246
C/A sky separation (km) : 1764.4
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	2048-09-27T08:18:20.374	21.14	-56.92	2575.1	40.26	40.28
Titan	E	2048-09-27T08:23:20.147	20.18	-57.95	2575.1	35.82	35.84