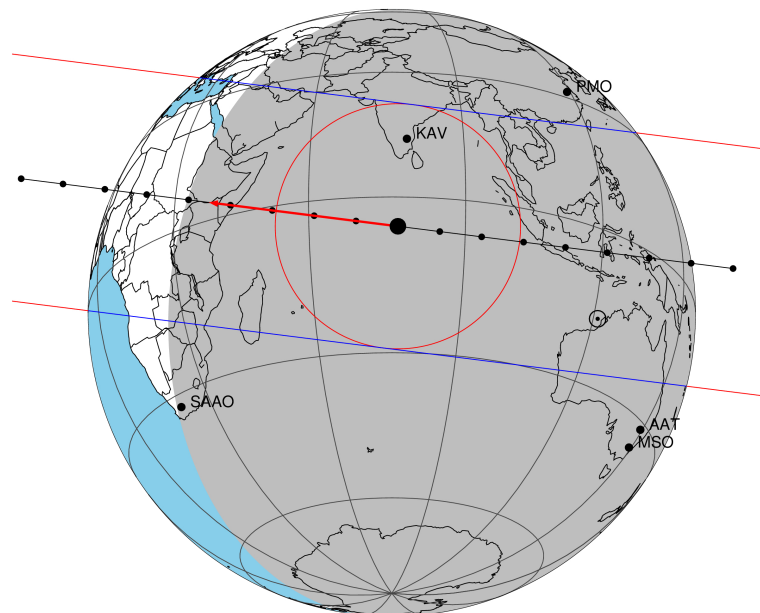


target : Titan  
 target radius (km) : 2575.15  
 C/A epoch : 2047-08-03T16:01:30.660  
 Event type : Pgt  
 : Titan occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4070427883234870016  
 2Mass ID (if available) : 17510357-2226155

ICRS Star Coord at Epoch: 17h 51m 03.55368s -22:26:16.06265s  
 RUWE (>1.4 is poor) : 1.04  
 K magnitude : 12.667  
 G magnitude : 17.710  
 RP magnitude : 16.445  
 BP magnitude : 19.621  
 DUPflag : 0  
 Distance (au) : 9.273  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : -14.77  
 Sun-Target sep (deg) : 137.31  
 Sun-Moon sep (deg) : 15.06  
 B (ring opening deg) : 26.72  
 PA of pole (deg) : 5.49  
 Pole direction: RA (deg): 39.48270  
 Dec (deg): 83.42790  
 C/A sky separation (") : 0.272  
 C/A sky separation (km) : 1831.0  
 NAIF SPICE kernels : RAJobs\_U111+rgf16.spk  
 URKALLv1.spk  
 naif0012.tls  
 nep097.bsp  
 nep101.bsp  
 sat4401.bsp

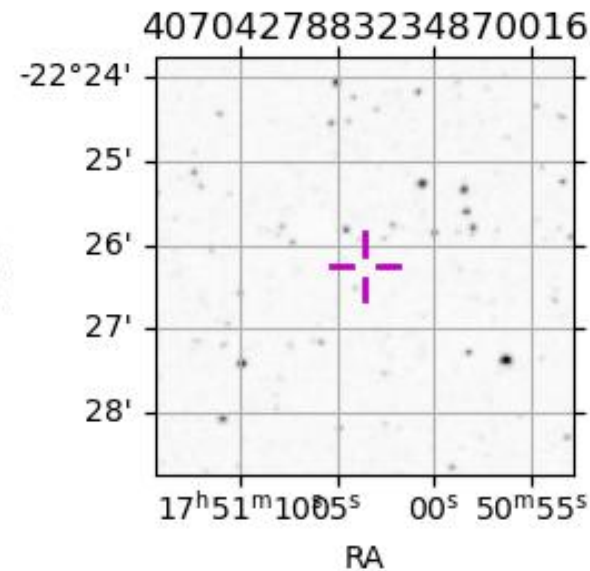
Titan 2047-08-03T16:01:30 K12.67 G17.71 dots 60.0 sec  
 Pgt



2047-08-03T16:01:30.6600 α: 17 51 03.5537 δ: -22 26 16.063 C/A 0.271" PA 7.20 deg v\_sky -14.77 km/s D 09.27 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    | 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 |        |                             | Pnn     |
| KAV  | Kavalur Observatory               | 12.6  | 78.8  | + +    | AUG 03 15:59 - AUG 03 16:03 | Pie     |
| 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     |



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2047-08-03T16:01:38.460
Event type           : Pgt
: Titan occs: geocentric, topocentric
: Not a ringed target
Observer code        : KAV
Location             : Kavalur Observatory
Latitude (deg)       : 12.57556
E. Longitude (deg)  : 78.83167
Altitude (km)        : 0.722
Gaia source ID       : 4070427883234870016
2Mass ID (if available) : 17510357-2226155
ICRS Star Coord at Epoch: 17h 51m 03.55368s -22:26:16.06265s
RUWE (>1.4 is poor) : 1.04
K magnitude           : 12.667
G magnitude           : 17.710
RP magnitude          : 16.445
BP magnitude          : 19.621
DUPflag              : 0
Distance (au)         : 9.273
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -14.77
Sun-Target sep (deg) : 137.31
Sun-Moon sep (deg)   : 15.28
B (ring opening deg) : 26.72
PA of pole (deg)     : 5.49
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation ("): 0.272
C/A sky separation (km): 1830.7
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   | 2047-08-03T15:59:39.493 | 54.98 | -38.25  | 2575.1 | 40.66   | 40.68        |
| Titan  | E   | 2047-08-03T16:03:37.454 | 54.90 | -39.05  | 2575.1 | 38.16   | 38.18        |

