

target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2046-10-15T09:26:16.790
 Event type : Pgt
 : Titan occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4115599737913474944
 2Mass ID (if available) : 17095142-2144557

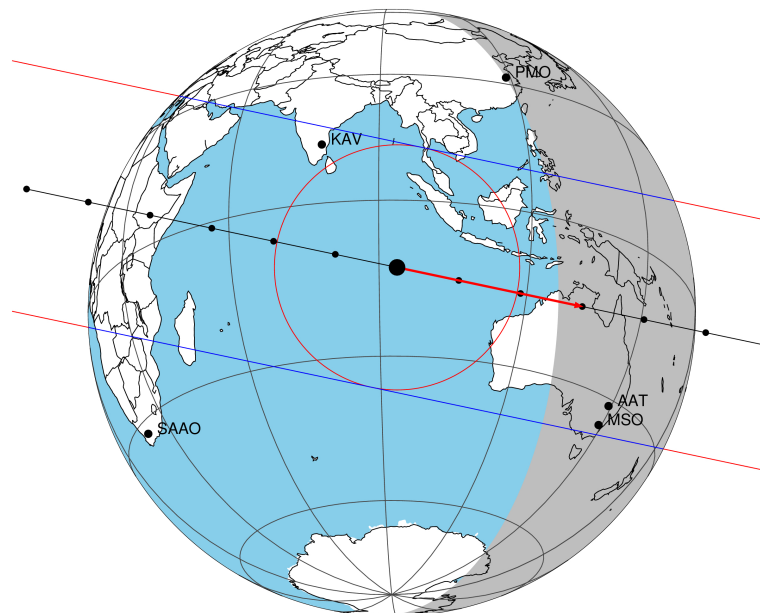
ICRS Star Coord at Epoch: 17h 09m 51.41362s -21:44:56.25985s
 RUWE (>1.4 is poor) : 1.06
 K magnitude : 12.365
 G magnitude : 15.236
 RP magnitude : 14.376
 BP magnitude : 15.996
 DUPflag : 0
 Distance (au) : 10.547
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 22.09
 Sun-Target sep (deg) : 56.83
 Sun-Moon sep (deg) : 127.31
 B (ring opening deg) : 26.87
 PA of pole (deg) : 4.53
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.127
 C/A sky separation (km) : 967.7
 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

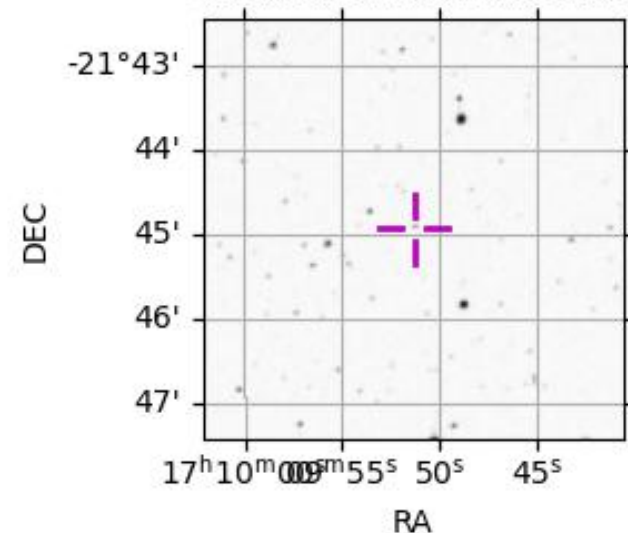
| Obs | Location | lat | Elon | Target | Observed Events Interval | OEcode |
|------|-----------------------------------|-------|-------|--------|-----------------------------|--------|
| PIC | Pic du Midi | 42.9 | 0.1 | | | Pnn |
| PAL | Palomar Mt (200") | 33.4 | 243.1 | | | Pnn |
| PMO | Purple Mtn 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 | + + | OCT 15 09:28 - OCT 15 09:31 | Pie |
| SAAO | So. Afr. Astro. Obs. (Sutherland) | -32.4 | 20.8 | | | Pnn |
| MSO | Mt. Stromlo Observatory | -35.3 | 149.0 | + + | OCT 15 09:29 - OCT 15 09:30 | Pie |

Titan 2046-10-15T09:26:16 K12.37 G15.24 dots 60.0 sec
 Pgt



2046-10-15T09:26:16.7900 cc: 17 09 51.4136 d: -21 44 56.260 C/A 0.125" PA 11.95 deg v_sky +22.08 km/s D 10.55 AU
 Credit: Styled after SORA/Lucky Star

4115599737913474944



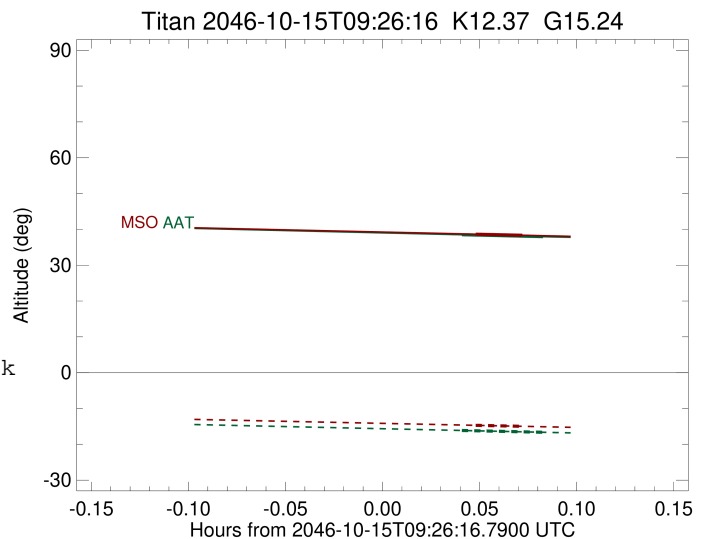
```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2046-10-15T09:29:58.630
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       : 4115599737913474944
2Mass ID (if available) : 17095142-2144557
ICRS Star Coord at Epoch: 17h 09m 51.41362s -21:44:56.25985s
RUWE (>1.4 is poor) : 1.06
K magnitude           : 12.365
G magnitude           : 15.236
RP magnitude          : 14.376
BP magnitude          : 15.996
DUPflag              : 0
Distance (au)        : 10.547
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 22.09
Sun-Target sep (deg) : 56.83
Sun-Moon sep (deg)   : 128.15
B (ring opening deg) : 26.87
PA of pole (deg)     : 4.53
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.257
C/A sky separation (km) : 1964.4
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 | 2046-10-15T09:28:42.417 | 38.51 | -16.13 | 2575.1 | -48.38 | -48.39 |
| Titan | E | 2046-10-15T09:31:14.836 | 37.97 | -16.64 | 2575.1 | -37.07 | -37.09 |



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2046-10-15T09:29:52.790
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       : 4115599737913474944
2Mass ID (if available) : 17095142-2144557
ICRS Star Coord at Epoch: 17h 09m 51.41362s -21:44:56.25985s
RUWE (>1.4 is poor) : 1.06
K magnitude           : 12.365
G magnitude           : 15.236
RP magnitude          : 14.376
BP magnitude          : 15.996
DUPflag              : 0
Distance (au)        : 10.547
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 22.09
Sun-Target sep (deg) : 56.83
Sun-Moon sep (deg)   : 128.13
B (ring opening deg) : 26.87
PA of pole (deg)     : 4.53
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.313
C/A sky separation (km) : 2393.7
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 | 2046-10-15T09:29:09.368 | 38.65 | -14.70 | 2575.0 | -59.77 | -59.78 |
| Titan | E | 2046-10-15T09:30:36.217 | 38.35 | -14.97 | 2575.1 | -51.39 | -51.40 |

