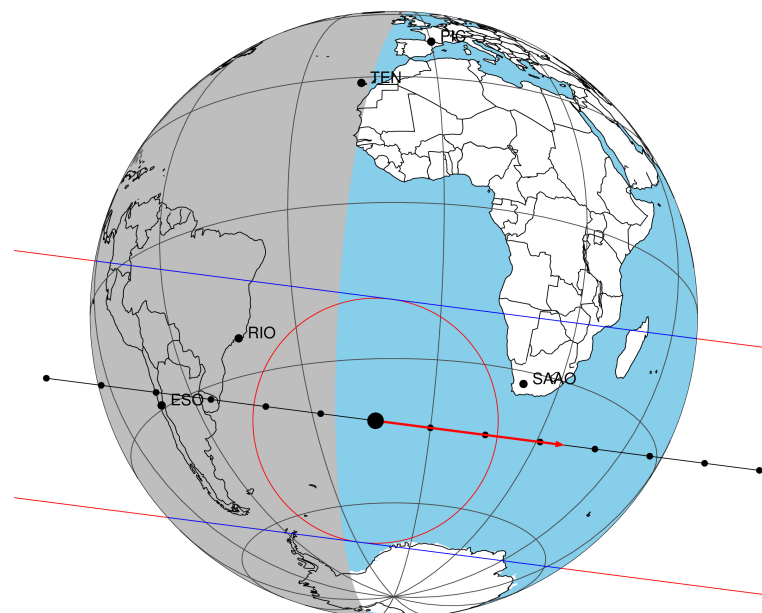


target : Titan  
 target radius (km) : 2575.15  
 C/A epoch : 2046-03-02T07:24:45.910  
 Event type : Pgt  
 : Titan occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4120817126747108352  
 2Mass ID (if available) : 17245596-2141243

ICRS Star Coord at Epoch: 17h 24m 55.93981s -21:41:24.69729s  
 RUWE (>1.4 is poor) : 1.10  
 K magnitude : 14.874  
 G magnitude : 18.867  
 RP magnitude : 17.786  
 BP magnitude : 20.052  
 DUPflag : 0  
 Distance (au) : 10.167  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 19.35  
 Sun-Target sep (deg) : 79.38  
 Sun-Moon sep (deg) : 20.34  
 B (ring opening deg) : 26.52  
 PA of pole (deg) : 4.89  
 Pole direction: RA (deg): 39.48270  
 Dec (deg): 83.42790  
 C/A sky separation (") : 0.305  
 C/A sky separation (km) : 2249.9  
 NAIF SPICE kernels : RAJobs\_U111+rgf16.spk  
 URKALLv1.spk  
 naif0012.tls  
 nep097.bsp  
 nep101.bsp  
 sat4401.bsp

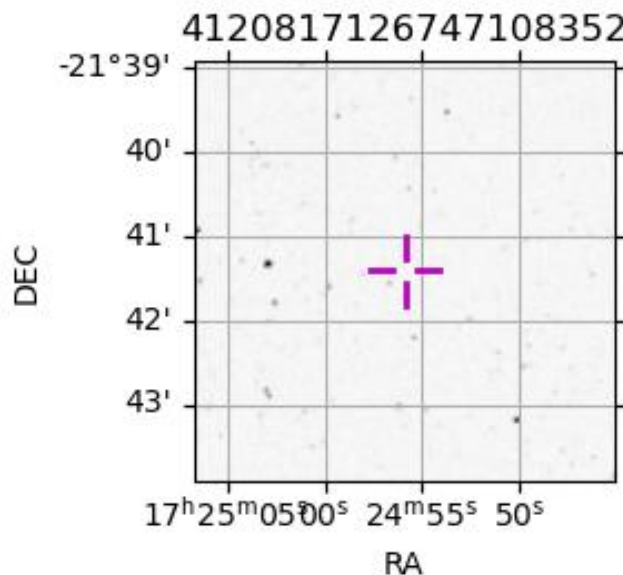
Titan 2046-03-02T07:24:45 K14.87 G18.87 dots 60.0 sec  
 Pgt



2046-03-02T07:24:45.9100 α: 17 24 55.9398 δ: -21 41 24.697 C/A 0.306" PA 187.36 deg v\_sky +19.35 km/s D 10.17 AU  
 Credit: Styled after SORA/Lucky Star

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

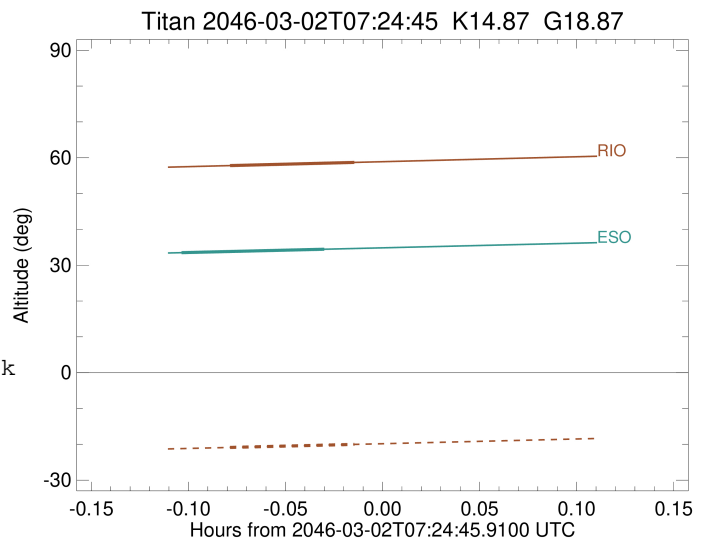
| Obs  | Location                          | lat   | Elon  | Target | Observed Events Interval    | OCode |
|------|-----------------------------------|-------|-------|--------|-----------------------------|-------|
| PIC  | Pic du Midi                       | 42.9  | 0.1   |        |                             | 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 | + +    | MAR 02 07:20 - MAR 02 07:23 | Pie   |
| ESO  | European Southern Obs. (3.6m)     | -29.3 | 289.3 | + +    | MAR 02 07:18 - MAR 02 07:22 | Pie   |
| 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            : 2046-03-02T07:21:58.440
Event type           : Pgt
: Titan occs: geocentric, topocentric
: Not a ringed target
Observer code        : RIO
Location             : Rio de Janeiro
Latitude (deg)       : -22.89506
E. Longitude (deg)  : 316.77708
Altitude (km)        : 0.033
Gaia source ID       : 4120817126747108352
2Mass ID (if available) : 17245596-2141243
ICRS Star Coord at Epoch: 17h 24m 55.93981s -21:41:24.69729s
RUWE (>1.4 is poor) : 1.10
K magnitude           : 14.874
G magnitude           : 18.867
RP magnitude         : 17.786
BP magnitude         : 20.052
DUPflag              : 0
Distance (au)        : 10.167
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 19.35
Sun-Target sep (deg) : 79.38
Sun-Moon sep (deg)   : 21.03
B (ring opening deg) : 26.52
PA of pole (deg)     : 4.89
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.183
C/A sky separation (km) : 1349.7
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   | 2046-03-02T07:20:03.150 | 57.80 | -20.87  | 2575.1 | 25.48   | 25.49        |
| Titan  | E   | 2046-03-02T07:23:53.755 | 58.68 | -20.02  | 2575.1 | 30.44   | 30.45        |

```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2046-03-02T07:20:45.670
Event type           : Pgt
: Titan occs: geocentric, topocentric
: Not a ringed target
Observer code        : ESO
Location             : European Southern Obs. (3.6m)
Latitude (deg)       : -29.26097
E. Longitude (deg)   : 289.26831
Altitude (km)        : 2.400
Gaia source ID       : 4120817126747108352
2Mass ID (if available) : 17245596-2141243
ICRS Star Coord at Epoch: 17h 24m 55.93981s -21:41:24.69729s
RUWE (>1.4 is poor) : 1.10
K magnitude          : 14.874
G magnitude          : 18.867
RP magnitude         : 17.786
BP magnitude         : 20.052
DUPflag             : 0
Distance (au)        : 10.167
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 19.35
Sun-Target sep (deg) : 79.38
Sun-Moon sep (deg)   : 21.11
B (ring opening deg) : 26.52
PA of pole (deg)     : 4.89
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.035
C/A sky separation (km) : 261.6
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   | 2046-03-02T07:18:32.188 | 33.49 | -39.95  | 2575.1 | -7.83   | -7.83        |
| Titan  | E   | 2046-03-02T07:22:59.192 | 34.46 | -39.21  | 2575.2 | -2.58   | -2.58        |

