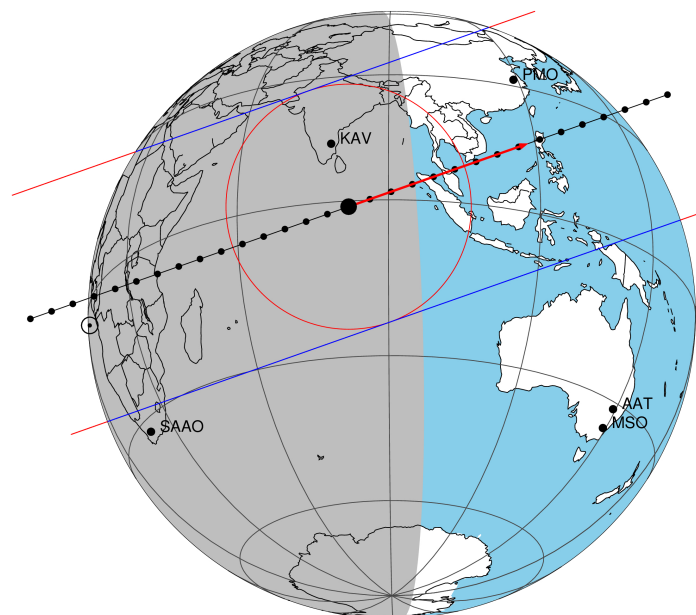


target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2047-03-30T23:43:16.110
 Event type : Pgt
 : Titan occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4090524554990579072
 2Mass ID (if available) : 18161318-2217403

ICRS Star Coord at Epoch: 18h 16m 13.20856s -22:17:40.90469s
 RUWE (>1.4 is poor) : 0.98
 K magnitude : 13.073
 G magnitude : 18.180
 RP magnitude : 16.580
 BP magnitude : 19.275
 DUPflag : 0
 Distance (au) : 9.897
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 7.88
 Sun-Target sep (deg) : 95.78
 Sun-Moon sep (deg) : 144.45
 B (ring opening deg) : 25.99
 PA of pole (deg) : 5.96
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.336
 C/A sky separation (km) : 2411.6
 NAIF SPICE kernels : RAJobs_U111+rgf16.spk

Titan 2047-03-30T23:43:16 K13.07 G18.18 dots 60.0 sec
 Pgt

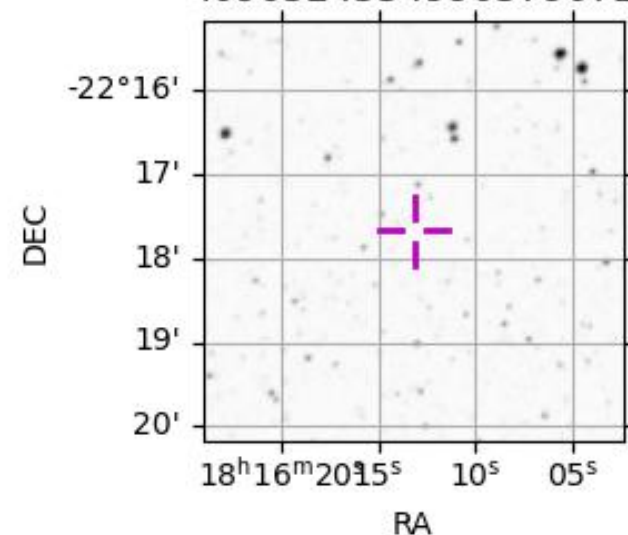


2047-03-30T23:43:16.1100 cc: 18 16 13.2086 d: -22 17 40.905 C/A 0.341" PA 340.60 deg v_sky + 7.88 km/s D 09.90 AU
 Credit: Styled after SORA/Lucky Star

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 | + + | MAR 30 23:38 - MAR 30 23:48 | 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 |

4090524554990579072



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2047-03-30T23:43:20.230
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       : 4090524554990579072
2Mass ID (if available) : 18161318-2217403
ICRS Star Coord at Epoch: 18h 16m 13.20856s -22:17:40.90469s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 13.073
G magnitude           : 18.180
RP magnitude          : 16.580
BP magnitude          : 19.275
DUPflag              : 0
Distance (au)         : 9.897
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 7.88
Sun-Target sep (deg) : 95.78
Sun-Moon sep (deg)   : 144.80
B (ring opening deg) : 25.99
PA of pole (deg)     : 5.96
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.194
C/A sky separation (km) : 1394.7
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 | 2047-03-30T23:38:29.557 | 52.97 | -16.22 | 2575.1 | 50.42 | 50.44 |
| Titan | E | 2047-03-30T23:48:10.771 | 53.72 | -13.87 | 2575.2 | 5.87 | 5.88 |

