

target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2032-11-11T03:43:59.630
 Event type : Pgt
 : Titan occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3376361035060062208
 2Mass ID (if available) : 06264310+2215559

ICRS Star Coord at Epoch: 06h 26m 43.10259s +22:15:55.87950s
 RUWE (>1.4 is poor) : 0.98
 K magnitude : 12.851
 G magnitude : 15.554
 RP magnitude : 14.727
 BP magnitude : 16.271
 DUPflag : 0
 Distance (au) : 8.319
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -7.36
 Sun-Target sep (deg) : 132.66
 Sun-Moon sep (deg) : 128.42
 B (ring opening deg) : -25.71
 PA of pole (deg) : -6.13
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.165
 C/A sky separation (km) : 995.6
 NAIF SPICE kernels : RAJobs_U111+rgf16.spk

Titan 2032-11-11T03:43:59 K12.85 G15.55 dots 60.0 sec
 Pgt



2032-11-11T03:43:59.6300 cc: 06 26 43.1026 d: +22 15 55.880 C/A 0.162" PA 350.76 deg v_sky - 7.35 km/s D 08.32 AU

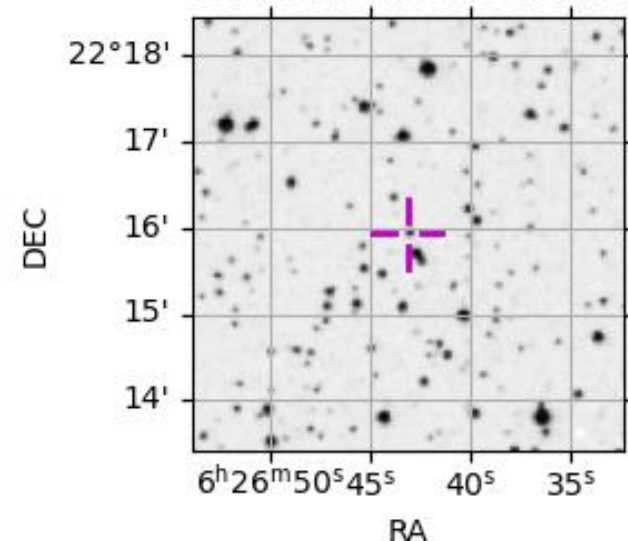
Credit: Styled after SORA/Lucky Star

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 | + + | NOV 11 03:36 - NOV 11 03:46 | Pie |
| 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 | + + | NOV 11 03:39 - NOV 11 03:50 | Pie |
| 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 | | | Pnn |
| SAAO | So. Afr. Astro. Obs. (Sutherland) | -32.4 | 20.8 | | | Pnn |
| MSO | Mt. Stromlo Observatory | -35.3 | 149.0 | | | Pnn |

3376361035060062208



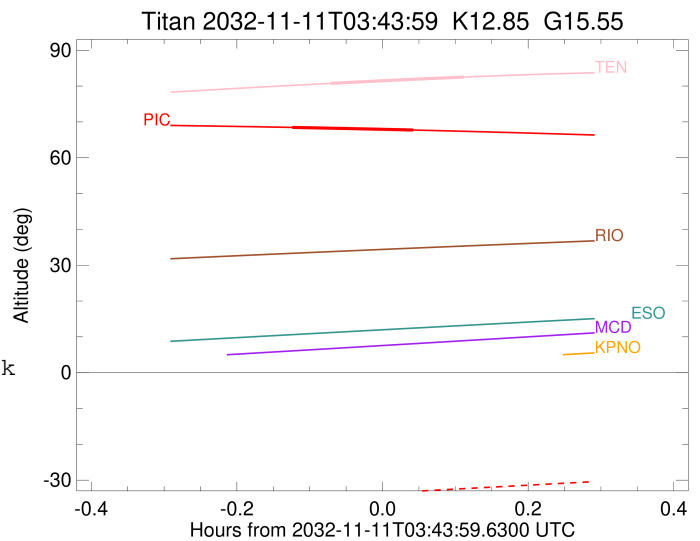
```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2032-11-11T03:41:31.660
Event type            : Pgt
: Titan occs: geocentric, topocentric
: Not a ringed target
Observer code         : PIC
Location              : Pic du Midi
Latitude (deg)        : 42.93656
E. Longitude (deg)    : 0.14231
Altitude (km)         : 2.890
Gaia source ID        : 3376361035060062208
2Mass ID (if available) : 06264310+221559
ICRS Star Coord at Epoch: 06h 26m 43.10259s +22:15:55.87950s
RUWE (>1.4 is poor)  : 0.98
K magnitude           : 12.851
G magnitude           : 15.554
RP magnitude          : 14.727
BP magnitude          : 16.271
DUPflag              : 0
Distance (au)         : 8.319
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s)  : -7.36
Sun-Target sep (deg)  : 132.66
Sun-Moon sep (deg)    : 129.08
B (ring opening deg)  : -25.71
PA of pole (deg)      : -6.13
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.185
C/A sky separation (km) : 1113.3
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 | 2032-11-11T03:36:29.905 | 68.46 | -34.96 | 2575.1 | 20.39 | 20.40 |
| Titan | E | 2032-11-11T03:46:33.660 | 67.72 | -33.13 | 2575.1 | 25.45 | 25.47 |



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2032-11-11T03:45:10.830
Event type            : Pgt
: Titan occs: geocentric, topocentric
: Not a ringed target
Observer code         : TEN
Location              : Teide Obs./Tenerife
Latitude (deg)       : 28.30050
E. Longitude (deg)   : 343.48909
Altitude (km)        : 2.395
Gaia source ID       : 3376361035060062208
2Mass ID (if available) : 06264310+2215559
ICRS Star Coord at Epoch: 06h 26m 43.10259s +22:15:55.87950s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 12.851
G magnitude           : 15.554
RP magnitude          : 14.727
BP magnitude          : 16.271
DUPflag              : 0
Distance (au)        : 8.319
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -7.36
Sun-Target sep (deg) : 132.66
Sun-Moon sep (deg)   : 129.25
B (ring opening deg) : -25.71
PA of pole (deg)     : -6.13
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.039
C/A sky separation (km) : 236.1
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 | 2032-11-11T03:39:40.113 | 80.74 | -49.72 | 2575.1 | -6.97 | -6.97 |
| Titan | E | 2032-11-11T03:50:41.730 | 82.50 | -47.30 | 2575.1 | -2.47 | -2.47 |

