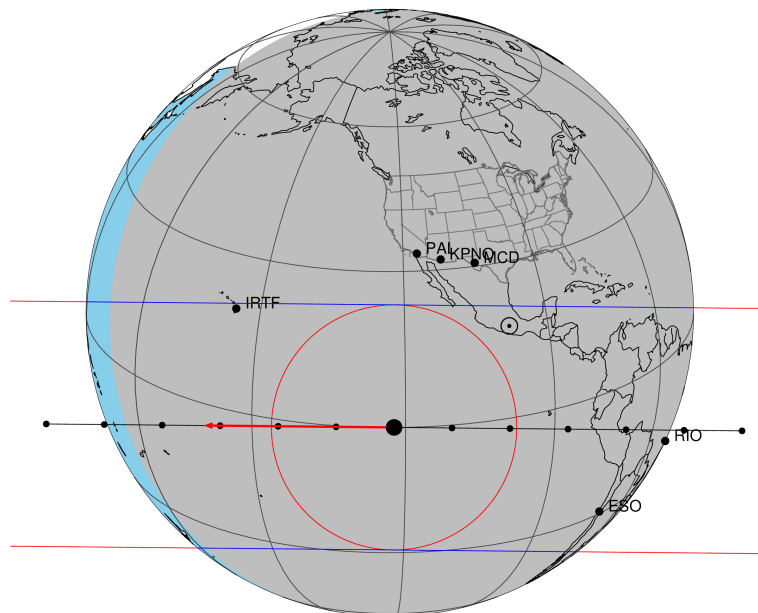


target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2034-01-29T06:47:14.340
 Event type : Pgt
 : Titan occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3368136924312871296
 2Mass ID (if available) : 07074483+2215518

ICRS Star Coord at Epoch: 07h 07m 44.82844s +22:15:51.37425s
 RUWE (>1.4 is poor) : 1.24
 K magnitude : 14.117
 G magnitude : 17.614
 RP magnitude : 16.468
 BP magnitude : 18.788
 DUPflag : 0
 Distance (au) : 8.116
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -20.29
 Sun-Target sep (deg) : 156.69
 Sun-Moon sep (deg) : 41.73
 B (ring opening deg) : -24.65
 PA of pole (deg) : -6.68
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.408
 C/A sky separation (km) : 2401.4
 NAIF SPICE kernels : RAJobs_U111+rgf16.spk

Titan 2034-01-29T06:47:14 K14.12 G17.61 dots 60.0 sec
 Pgt

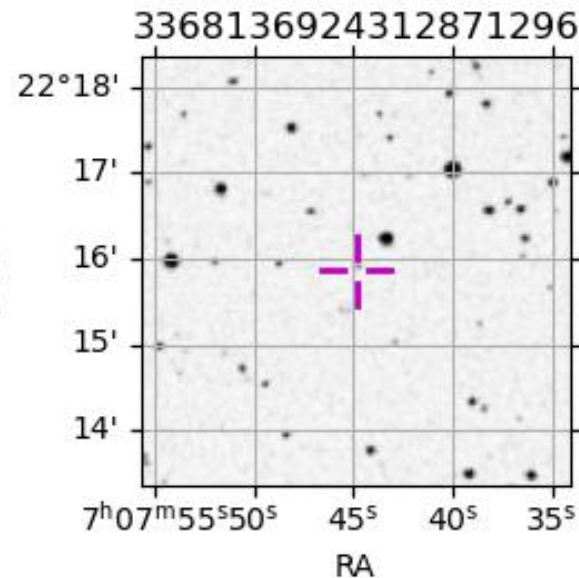


2034-01-29T06:47:14.3400 α: 07 07 44.8284 δ: +22 15 51.374 C/A 0.409" PA 180.56 deg v_sky -20.29 km/s D 08.12 AU

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 | + + | JAN 29 06:49 - JAN 29 06:50 | Pie |
| 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 | + + | JAN 29 06:42 - JAN 29 06:45 | 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 |



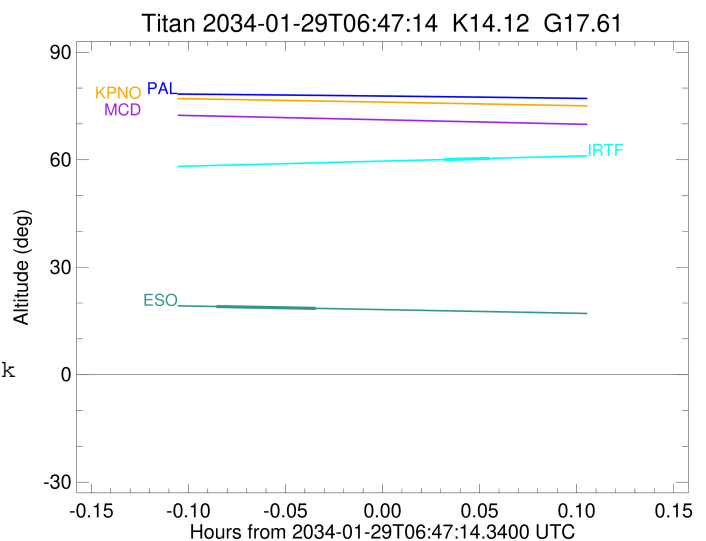
```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2034-01-29T06:49:51.050
Event type            : Pgt
: Titan occs: geocentric, topocentric
: Not a ringed target
Observer code         : IRTF
Location              : Mauna Kea/IRTF
Latitude (deg)        : 19.82622
E. Longitude (deg)    : 204.52800
Altitude (km)         : 4.168
Gaia source ID        : 3368136924312871296
2Mass ID (if available) : 07074483+2215518
ICRS Star Coord at Epoch: 07h 07m 44.82844s +22:15:51.37425s
RUWE (>1.4 is poor) : 1.24
K magnitude           : 14.117
G magnitude           : 17.614
RP magnitude          : 16.468
BP magnitude          : 18.788
DUPflag              : 0
Distance (au)         : 8.116
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -20.29
Sun-Target sep (deg) : 156.69
Sun-Moon sep (deg)   : 41.92
B (ring opening deg) : -24.65
PA of pole (deg)     : -6.68
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.412
C/A sky separation (km) : 2422.5
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

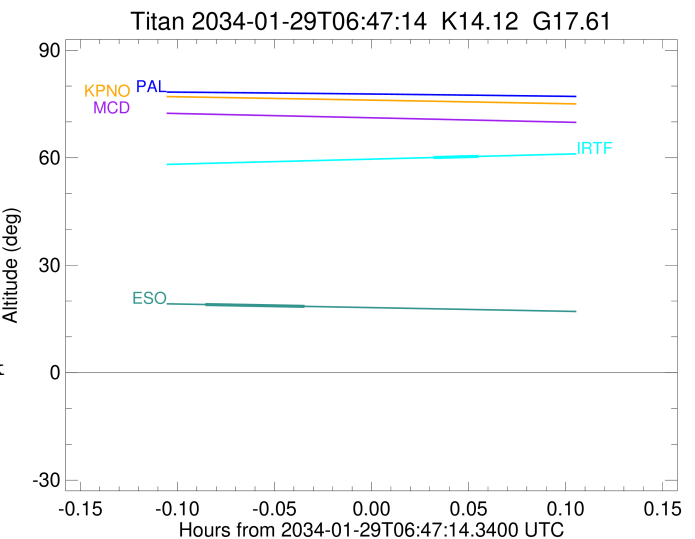
| Target | I/E | UTC | alt | alt-sun | radius | lat-geo | lat-geodetic |
|--------|-----|-------------------------|-------|---------|--------|---------|--------------|
| Titan | I | 2034-01-29T06:49:08.785 | 60.04 | -36.79 | 2575.1 | 62.61 | 62.62 |
| Titan | E | 2034-01-29T06:50:33.314 | 60.37 | -37.12 | 2575.1 | 53.87 | 53.89 |



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2034-01-29T06:43:37.780
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        : 3368136924312871296
2Mass ID (if available) : 07074483+2215518
ICRS Star Coord at Epoch: 07h 07m 44.82844s +22:15:51.37425s
RUWE (>1.4 is poor) : 1.24
K magnitude           : 14.117
G magnitude           : 17.614
RP magnitude          : 16.468
BP magnitude          : 18.788
DUPflag              : 0
Distance (au)         : 8.116
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -20.29
Sun-Target sep (deg) : 156.69
Sun-Moon sep (deg)   : 42.44
B (ring opening deg) : -24.65
PA of pole (deg)     : -6.68
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.293
C/A sky separation (km) : 1726.1
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 | 2034-01-29T06:42:04.789 | 19.02 | -36.49 | 2575.1 | -31.58 | -31.59 |
| Titan | E | 2034-01-29T06:45:10.787 | 18.50 | -36.12 | 2575.1 | -43.30 | -43.32 |