

target : Titan  
 target radius (km) : 2575.15  
 C/A epoch : 2034-01-25T20:29:48.260  
 Event type : Pt  
 : Titan occs: topocentric, not geocentric  
 : Not a ringed target  
 Gaia source ID : 3367389088895593088  
 2Mass ID (if available) : 07090741+2214439

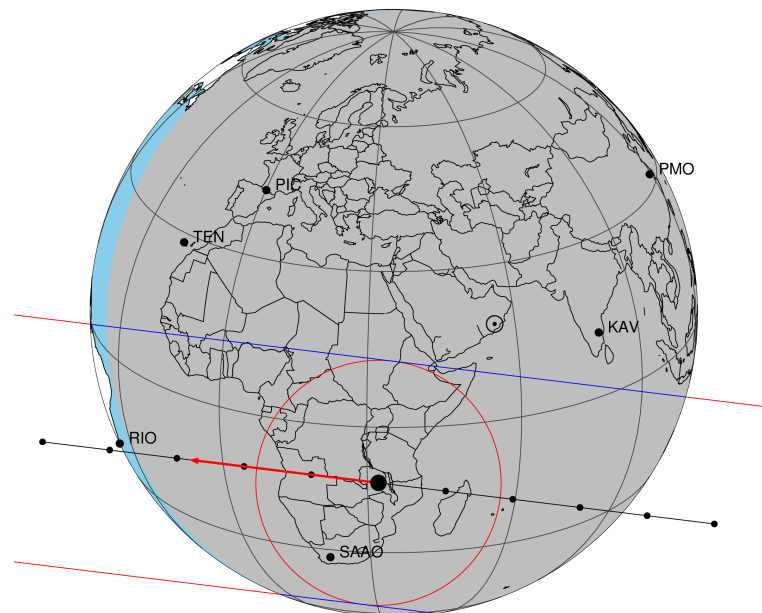
ICRS Star Coord at Epoch: 07h 09m 07.39993s +22:14:43.69914s  
 RUWE (>1.4 is poor) : 1.00  
 K magnitude : 13.478  
 G magnitude : 15.740  
 RP magnitude : 15.014  
 BP magnitude : 16.319  
 DUPflag : 0  
 Distance (au) : 8.092  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : -23.68  
 Sun-Target sep (deg) : 160.49  
 Sun-Moon sep (deg) : 90.16  
 B (ring opening deg) : -24.59  
 PA of pole (deg) : -6.69  
 Pole direction: RA (deg): 39.48270  
 Dec (deg): 83.42790  
 C/A sky separation (") : 0.612  
 C/A sky separation (km) : 3592.9  
 NAIF SPICE kernels : RAJobs\_U111+rgf16.spk

URKALLv1.spk  
 naif0012.tls  
 nep097.bsp  
 nep101.bsp  
 sat4401.bsp

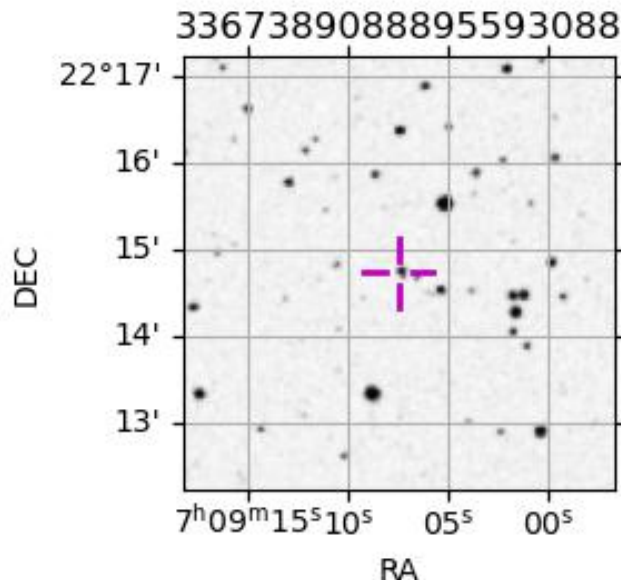
Observable events with sun below -5 deg and altitude above 5 deg

| 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 |        |                             | Pnn    |
| SAAO | So. Afr. Astro. Obs. (Sutherland) | -32.4 | 20.8  | + +    | JAN 25 20:28 - JAN 25 20:31 | Pie    |
| MSO  | Mt. Stromlo Observatory           | -35.3 | 149.0 |        |                             | Pnn    |

Titan 2034-01-25T20:29:48 K13.48 G15.74 dots 60.0 sec  
 Pt



2034-01-25T20:29:48.2600 α: 07 09 07.3999 δ: +22 14 43.699 C/A 0.611" PA 186.97 deg v\_sky -23.68 km/s D 08.09 AU  
 Credit: Styled after SORA/Lucky Star

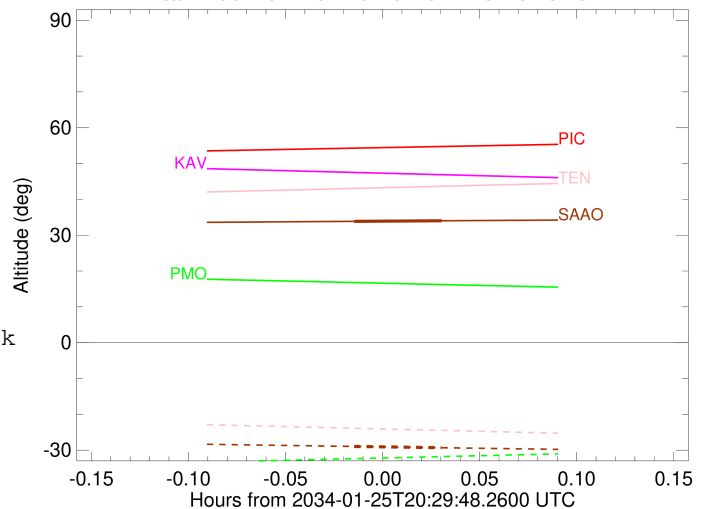


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target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2034-01-25T20:30:16.690
Event type            : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code         : SAAO
Location              : So. Afr. Astro. Obs. (Sutherland)
Latitude (deg)       : -32.37953
E. Longitude (deg)   : 20.81070
Altitude (km)        : 1.768
Gaia source ID       : 3367389088895593088
2Mass ID (if available) : 07090741+2214439
ICRS Star Coord at Epoch: 07h 09m 07.39993s +22:14:43.69914s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 13.478
G magnitude           : 15.740
RP magnitude          : 15.014
BP magnitude          : 16.319
DUPflag              : 0
Distance (au)        : 8.092
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -23.68
Sun-Target sep (deg) : 160.49
Sun-Moon sep (deg)   : 90.71
B (ring opening deg) : -24.59
PA of pole (deg)     : -6.69
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation ("): 0.281
C/A sky separation (km): 1651.9
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

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Titan 2034-01-25T20:29:48 K13.48 G15.74



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   | 2034-01-25T20:28:54.600 | 33.86 | -28.96  | 2575.1 | -23.73  | -23.74       |
| Titan  | E   | 2034-01-25T20:31:38.776 | 34.02 | -29.32  | 2575.1 | -46.99  | -47.01       |