

target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2046-05-22T10:27:03.270
 Event type : Pt
 : Titan occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 4115055617103587584
 2Mass ID (if available) : 17200146-2132305

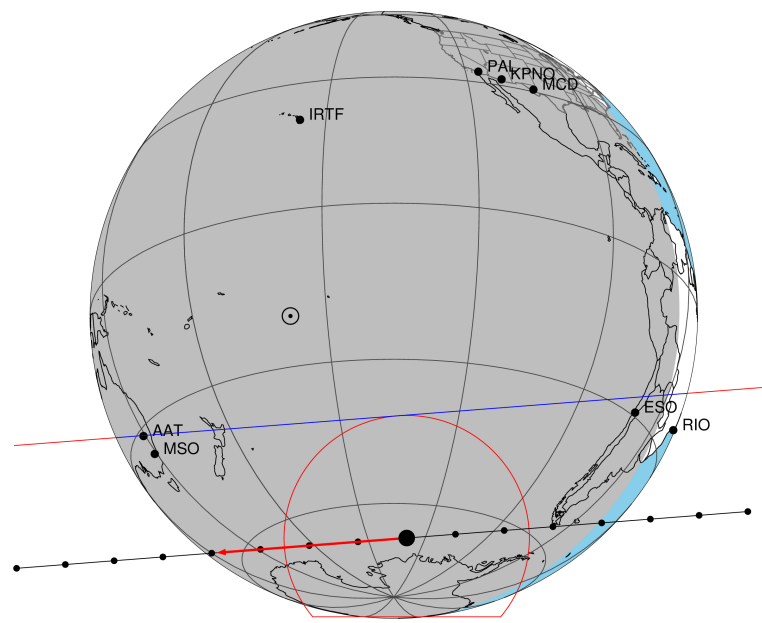
ICRS Star Coord at Epoch: 17h 20m 01.45236s -21:32:30.67676s
 RUWE (>1.4 is poor) : 0.97
 K magnitude : 14.592
 G magnitude : 18.602
 RP magnitude : 17.551
 BP magnitude : 19.844
 DUPflag : 0
 Distance (au) : 9.077
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -17.11
 Sun-Target sep (deg) : 160.11
 Sun-Moon sep (deg) : 10.60
 B (ring opening deg) : 26.47
 PA of pole (deg) : 4.77
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.716
 C/A sky separation (km) : 4710.4
 NAIF SPICE kernels : RAJobs_U111+rgf16.spk

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

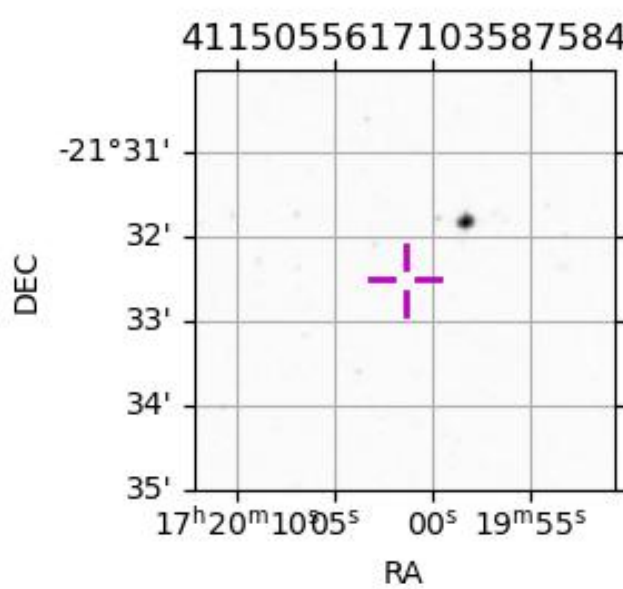
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	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			Pnn
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+ +	MAY 22 10:21 - MAY 22 10:23	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	+ +	MAY 22 10:30 - MAY 22 10:33	Pie

Titan 2046-05-22T10:27:03 K14.59 G18.60 dots 60.0 sec
 Pt

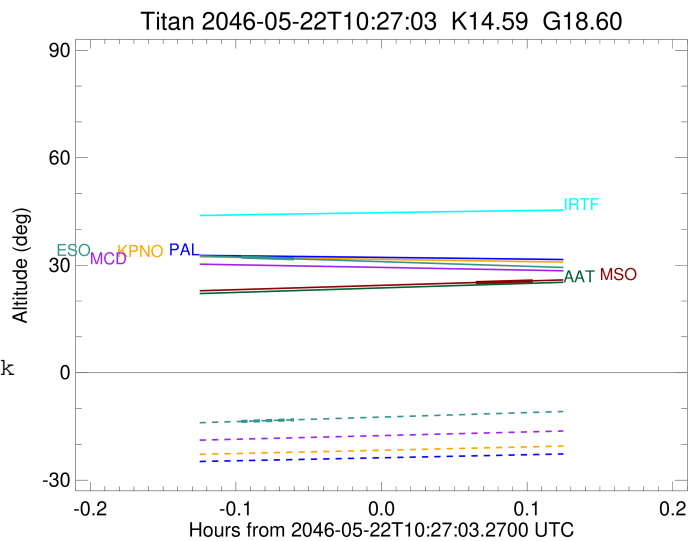


2046-05-22T10:27:03.2700 cc: 17 20 01.4524 & -21 32 30.677 C/A 0.713" PA 175.56 deg v_sky -17.11 km/s D 09.08 AU
 Credit: Styled after SORA/Lucky Star



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2046-05-22T10:22:21.330
Event type           : Pt
: Titan occs: topocentric, not geocentric
: 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       : 4115055617103587584
2Mass ID (if available) : 17200146-2132305
ICRS Star Coord at Epoch: 17h 20m 01.45236s -21:32:30.67676s
RUWE (>1.4 is poor) : 0.97
K magnitude           : 14.592
G magnitude           : 18.602
RP magnitude          : 17.551
BP magnitude          : 19.844
DUPflag              : 0
Distance (au)        : 9.077
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -17.11
Sun-Target sep (deg) : 160.11
Sun-Moon sep (deg)   : 9.89
B (ring opening deg) : 26.47
PA of pole (deg)     : 4.77
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation ("): 0.350
C/A sky separation (km): 2306.9
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
    
```



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	2046-05-22T10:21:15.058	32.24	-13.62	2575.1	47.09	47.10
Titan	E	2046-05-22T10:23:27.599	31.76	-13.15	2575.1	58.53	58.55

```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2046-05-22T10:32:06.870
Event type           : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code        : MSO
Location             : Mt. Stromlo Observatory
Latitude (deg)       : -35.32000
E. Longitude (deg)   : 149.00833
Altitude (km)        : 0.770
Gaia source ID       : 4115055617103587584
2Mass ID (if available) : 17200146-2132305
ICRS Star Coord at Epoch: 17h 20m 01.45236s -21:32:30.67676s
RUWE (>1.4 is poor) : 0.97
K magnitude          : 14.592
G magnitude          : 18.602
RP magnitude         : 17.551
BP magnitude         : 19.844
DUPflag             : 0
Distance (au)        : 9.077
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -17.11
Sun-Target sep (deg) : 160.11
Sun-Moon sep (deg)   : 11.14
B (ring opening deg) : 26.47
PA of pole (deg)     : 4.77
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation ("): 0.345
C/A sky separation (km): 2268.0
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	2046-05-22T10:30:56.113	25.16	-41.95	2575.0	44.95	44.96
Titan	E	2046-05-22T10:33:17.610	25.63	-42.43	2575.1	58.01	58.03

