

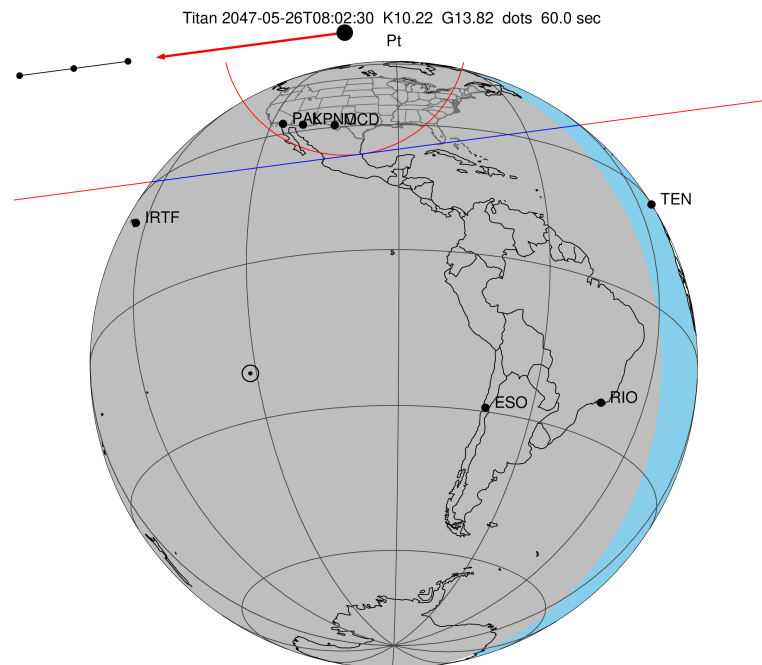
target : Titan  
 target radius (km) : 2575.15  
 C/A epoch : 2047-05-26T08:02:30.700  
 Event type : Pt  
 : Titan occs: topocentric, not geocentric  
 : Not a ringed target  
 Gaia source ID : 4066741740515378176  
 2Mass ID (if available) : 18111219-2219459

ICRS Star Coord at Epoch: 18h 11m 12.19132s -22:19:46.17630s  
 RUWE (>1.4 is poor) : 0.90  
 K magnitude : 10.223  
 G magnitude : 13.824  
 RP magnitude : 12.833  
 BP magnitude : 14.843  
 DUPflag : 0  
 Distance (au) : 9.139  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : -19.12  
 Sun-Target sep (deg) : 151.77  
 Sun-Moon sep (deg) : 167.90  
 B (ring opening deg) : 26.15  
 PA of pole (deg) : 5.87  
 Pole direction: RA (deg): 39.48270  
 Dec (deg): 83.42790  
 C/A sky separation (") : 1.063  
 C/A sky separation (km) : 7042.9  
 NAIF SPICE kernels : RAJobs\_U111+rgf16.spk

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

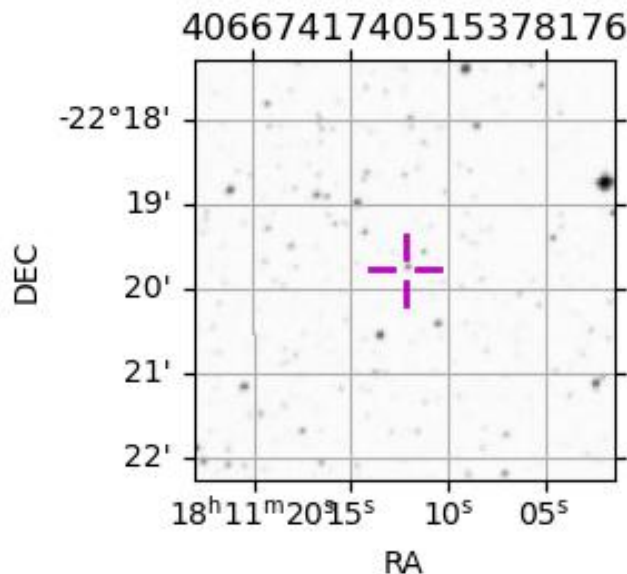
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	MAY 26 08:02 - MAY 26 08:05	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	MAY 26 08:01 - MAY 26 08:05	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+ +	MAY 26 08:01 - MAY 26 08:04	Pie
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			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



2047-05-26T08:02:30.7000 cc: 18 11 12.1913 s: -22 19 46.176 C/A 1.064" PA 352.45 deg v\_sky -19.12 km/s D 09.14 AU

Credit: Styled after SORA/Lucky Star



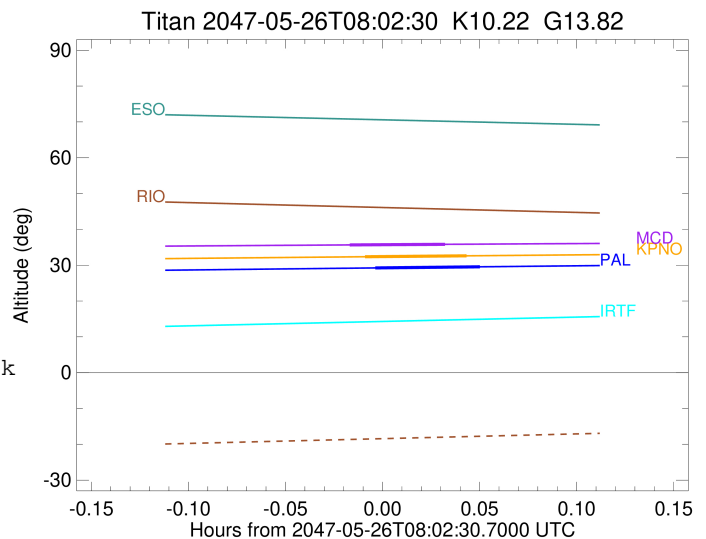
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target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2047-05-26T08:03:53.910
Event type           : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code        : PAL
Location             : Palomar Mt (200")
Latitude (deg)       : 33.35622
E. Longitude (deg)   : 243.13601
Altitude (km)        : 1.706
Gaia source ID       : 4066741740515378176
2Mass ID (if available) : 18111219-2219459
ICRS Star Coord at Epoch: 18h 11m 12.19132s -22:19:46.17630s
RUWE (>1.4 is poor) : 0.90
K magnitude           : 10.223
G magnitude           : 13.824
RP magnitude          : 12.833
BP magnitude          : 14.843
DUPflag              : 0
Distance (au)        : 9.139
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -19.12
Sun-Target sep (deg) : 151.77
Sun-Moon sep (deg)   : 167.87
B (ring opening deg) : 26.15
PA of pole (deg)     : 5.87
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation ("): 0.260
C/A sky separation (km): 1722.2
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	2047-05-26T08:02:15.631	29.23	-35.52	2575.1	-47.67	-47.68
Titan	E	2047-05-26T08:05:32.167	29.55	-35.45	2575.2	-25.37	-25.38



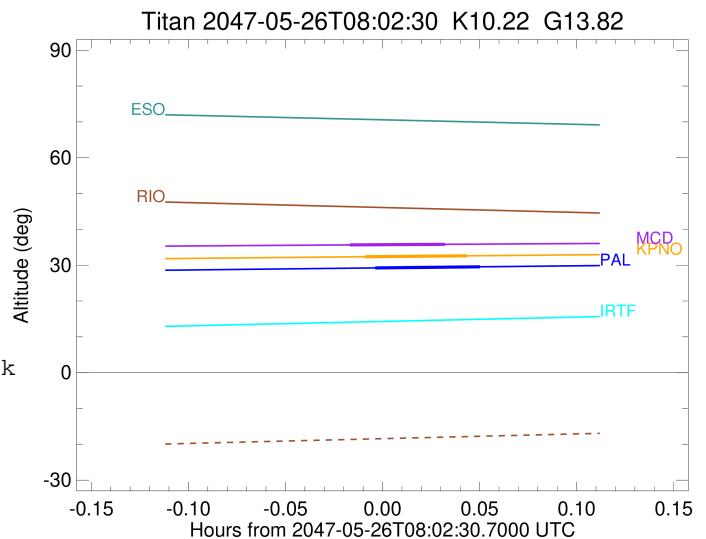
```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2047-05-26T08:03:32.520
Event type          : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code       : KPNO
Location           : Kitt Peak Natl Obs
Latitude (deg)     : 31.96333
E. Longitude (deg) : 248.40000
Altitude (km)     : 2.120
Gaia source ID     : 4066741740515378176
2Mass ID (if available) : 18111219-2219459
ICRS Star Coord at Epoch: 18h 11m 12.19132s -22:19:46.17630s
RUWE (>1.4 is poor) : 0.90
K magnitude        : 10.223
G magnitude        : 13.824
RP magnitude       : 12.833
BP magnitude       : 14.843
DUPflag           : 0
Distance (au)     : 9.139
f0 (km)           : 0.00
g0 (km)           : 0.00
skyplane vel. (km/s) : -19.12
Sun-Target sep (deg) : 151.77
Sun-Moon sep (deg) : 167.93
B (ring opening deg) : 26.15
PA of pole (deg)  : 5.87
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.271
C/A sky separation (km) : 1797.5
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	2047-05-26T08:01:57.948	32.36	-36.28	2575.1	-49.35	-49.37
Titan	E	2047-05-26T08:05:07.078	32.61	-36.14	2575.1	-27.41	-27.42



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target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2047-05-26T08:02:58.470
Event type           : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code        : MCD
Location             : McDonald Obs. 2.7m
Latitude (deg)       : 30.67158
E. Longitude (deg)   : 255.97844
Altitude (km)        : 2.075
Gaia source ID       : 4066741740515378176
2Mass ID (if available) : 18111219-2219459
ICRS Star Coord at Epoch: 18h 11m 12.19132s -22:19:46.17630s
RUWE (>1.4 is poor) : 0.90
K magnitude           : 10.223
G magnitude           : 13.824
RP magnitude          : 12.833
BP magnitude          : 14.843
DUPflag              : 0
Distance (au)        : 9.139
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -19.12
Sun-Target sep (deg) : 151.77
Sun-Moon sep (deg)   : 168.03
B (ring opening deg) : 26.15
PA of pole (deg)     : 5.87
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.286
C/A sky separation (km) : 1896.2
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	2047-05-26T08:01:29.189	35.66	-35.81	2575.1	-51.58	-51.60
Titan	E	2047-05-26T08:04:27.745	35.82	-35.59	2575.2	-30.18	-30.19

