

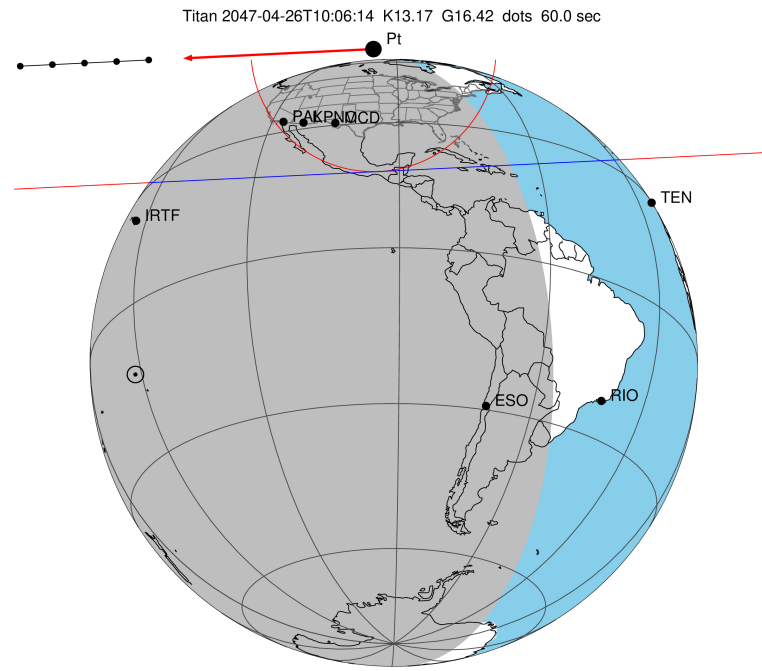
target : Titan  
 target radius (km) : 2575.15  
 C/A epoch : 2047-04-26T10:06:14.910  
 Event type : Pt  
 : Titan occs: topocentric, not geocentric  
 : Not a ringed target  
 Gaia source ID : 4090521561319417344  
 2Mass ID (if available) : 18163230-2218328

ICRS Star Coord at Epoch: 18h 16m 32.28932s -22:18:33.19670s  
 RUWE (>1.4 is poor) : 1.02  
 K magnitude : 13.170  
 G magnitude : 16.422  
 RP magnitude : 15.356  
 BP magnitude : 17.345  
 DUPflag : 0  
 Distance (au) : 9.474  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : -11.24  
 Sun-Target sep (deg) : 121.63  
 Sun-Moon sep (deg) : 134.73  
 B (ring opening deg) : 26.00  
 PA of pole (deg) : 5.96  
 Pole direction: RA (deg): 39.48270  
 Dec (deg): 83.42790  
 C/A sky separation (") : 0.961  
 C/A sky separation (km) : 6602.3  
 NAIF SPICE kernels : RAJobs\_U111+rgf16.spk

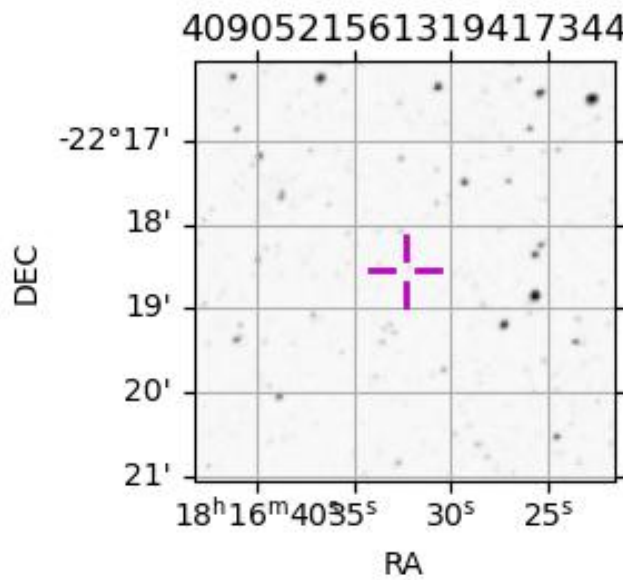
URKALLv1.spk  
 naif0012.tls  
 nep097.bsp  
 nep101.bsp  
 sat4401.bsp

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	+ +	APR 26 10:06 - APR 26 10:12	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	APR 26 10:05 - APR 26 10:11	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+ +	APR 26 10:04 - APR 26 10:10	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



2047-04-26T10:06:14.9100 cc: 18 16 32.2893 s: -22 18 33.197 C/A 0.961" PA 357.21 deg v\_sky -11.24 km/s D 09.47 AU  
 Credit: Styled after SORA/Lucky Star



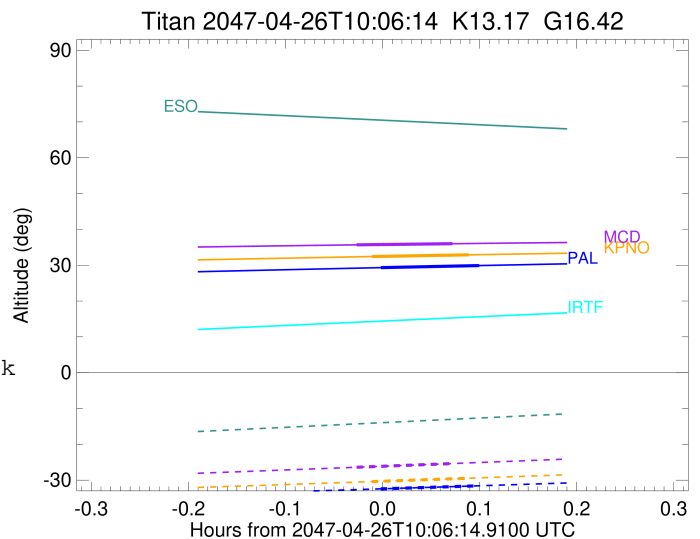
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target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2047-04-26T10:09:11.710
Event type            : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code         : PAL
Location              : Palomar Mt (200")
Latitude (deg)        : 33.35622
E. Longitude (deg)   : 243.13601
Altitude (km)         : 1.706
Gaia source ID        : 4090521561319417344
2Mass ID (if available) : 18163230-2218328
ICRS Star Coord at Epoch: 18h 16m 32.28932s -22:18:33.19670s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 13.170
G magnitude           : 16.422
RP magnitude          : 15.356
BP magnitude          : 17.345
DUPflag              : 0
Distance (au)         : 9.474
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -11.24
Sun-Target sep (deg) : 121.63
Sun-Moon sep (deg)   : 134.89
B (ring opening deg) : 26.00
PA of pole (deg)     : 5.96
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation ("): 0.208
C/A sky separation (km): 1428.3
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	2047-04-26T10:06:07.024	29.31	-32.43	2575.1	-37.51	-37.53
Titan	E	2047-04-26T10:12:16.336	29.89	-31.56	2575.1	-22.10	-22.11



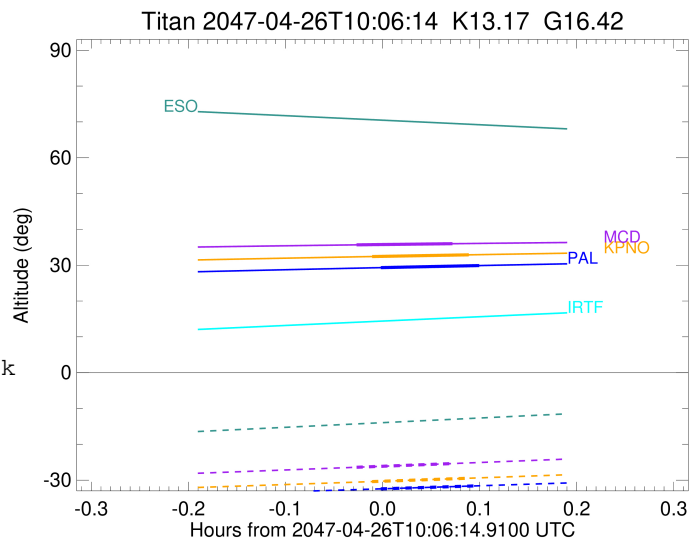
```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2047-04-26T10:08:35.200
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        : 4090521561319417344
2Mass ID (if available) : 18163230-2218328
ICRS Star Coord at Epoch: 18h 16m 32.28932s -22:18:33.19670s
RUWE (>1.4 is poor)  : 1.02
K magnitude           : 13.170
G magnitude           : 16.422
RP magnitude          : 15.356
BP magnitude          : 17.345
DUPflag              : 0
Distance (au)         : 9.474
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -11.24
Sun-Target sep (deg)  : 121.63
Sun-Moon sep (deg)   : 134.96
B (ring opening deg) : 26.00
PA of pole (deg)     : 5.96
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.214
C/A sky separation (km) : 1471.5
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	2047-04-26T10:05:33.335	32.41	-30.41	2575.1	-38.43	-38.45
Titan	E	2047-04-26T10:11:37.009	32.89	-29.46	2575.1	-23.17	-23.18



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target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2047-04-26T10:07:37.400
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        : 4090521561319417344
2Mass ID (if available) : 18163230-2218328
ICRS Star Coord at Epoch: 18h 16m 32.28932s -22:18:33.19670s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 13.170
G magnitude           : 16.422
RP magnitude          : 15.356
BP magnitude          : 17.345
DUPflag              : 0
Distance (au)         : 9.474
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -11.24
Sun-Target sep (deg)  : 121.63
Sun-Moon sep (deg)   : 135.05
B (ring opening deg) : 26.00
PA of pole (deg)     : 5.96
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.221
C/A sky separation (km) : 1518.3
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	2047-04-26T10:04:38.687	35.68	-26.40	2575.1	-39.42	-39.43
Titan	E	2047-04-26T10:10:36.070	36.00	-25.36	2575.1	-24.37	-24.39

