

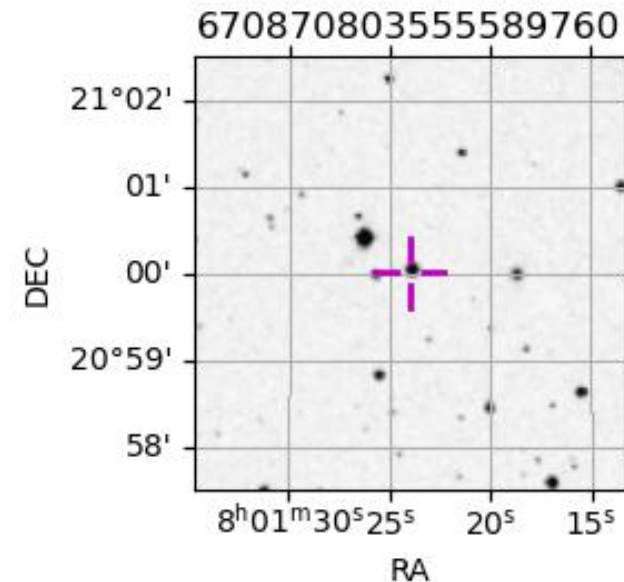
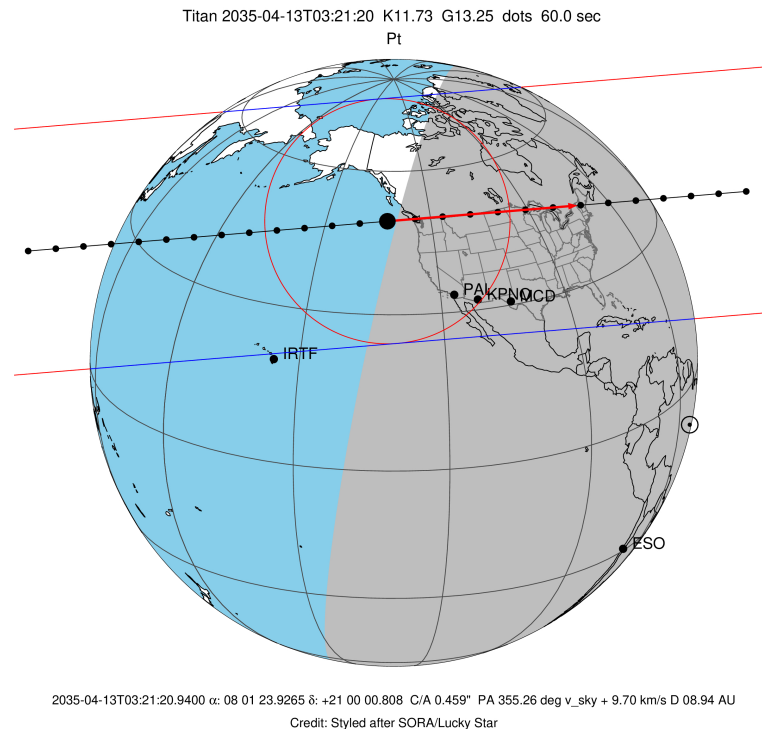
target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2035-04-13T03:21:20.940
 Event type : Pt
 : Titan occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 670870803555589760
 2Mass ID (if available) : 08012395+2100014

ICRS Star Coord at Epoch: 08h 01m 23.92645s +21:00:00.80815s
 RUWE (>1.4 is poor) : 0.94
 K magnitude : 11.732
 G magnitude : 13.255
 RP magnitude : 12.729
 BP magnitude : 13.599
 DUPflag : 0
 Distance (au) : 8.942
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 9.69
 Sun-Target sep (deg) : 95.58
 Sun-Moon sep (deg) : 32.27
 B (ring opening deg) : -21.90
 PA of pole (deg) : -7.00
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.463
 C/A sky separation (km) : 3001.8
 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 13 03:20 - APR 13 03:27	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	APR 13 03:21 - APR 13 03:27	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+ +	APR 13 03:22 - APR 13 03:28	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



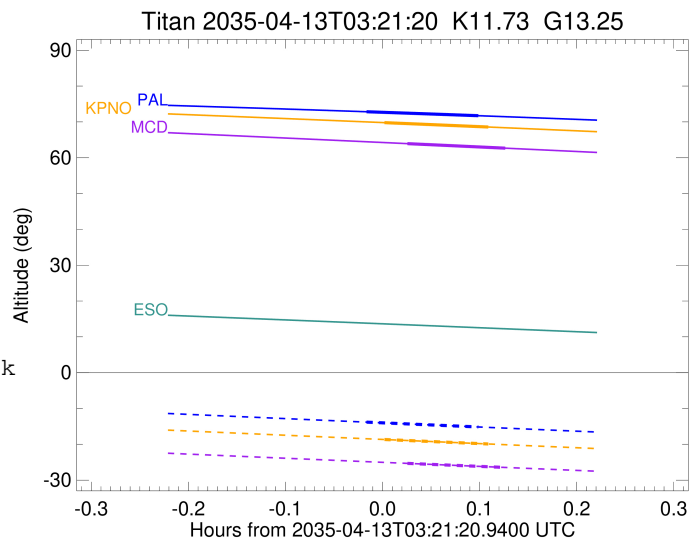
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target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2035-04-13T03:23:48.930
Event type           : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code        : PAL
Location             : Palomar Mt (200")
Latitude (deg)       : 33.35622
E. Longitude (deg)  : 243.13601
Altitude (km)        : 1.706
Gaia source ID       : 670870803555589760
2Mass ID (if available) : 08012395+2100014
ICRS Star Coord at Epoch: 08h 01m 23.92645s +21:00:00.80815s
RUWE (>1.4 is poor) : 0.94
K magnitude          : 11.732
G magnitude          : 13.255
RP magnitude         : 12.729
BP magnitude         : 13.599
DUPflag             : 0
Distance (au)        : 8.942
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 9.69
Sun-Target sep (deg) : 95.58
Sun-Moon sep (deg)  : 32.95
B (ring opening deg) : -21.90
PA of pole (deg)    : -7.00
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (" ) : 0.262
C/A sky separation (km) : 1696.5
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	2035-04-13T03:20:21.007	72.83	-13.81	2575.1	-39.67	-39.69
Titan	E	2035-04-13T03:27:16.896	71.72	-15.16	2575.1	-35.66	-35.68



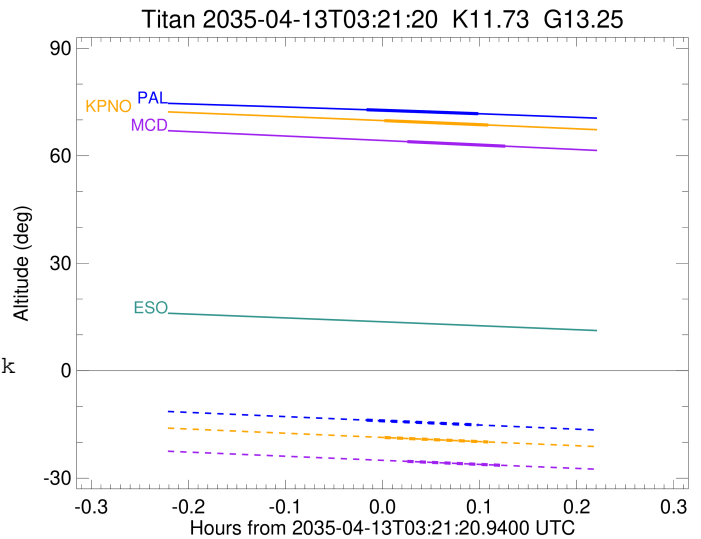
```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2035-04-13T03:24:41.500
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        : 670870803555589760
2Mass ID (if available) : 08012395+2100014
ICRS Star Coord at Epoch: 08h 01m 23.92645s +21:00:00.80815s
RUWE (>1.4 is poor)  : 0.94
K magnitude           : 11.732
G magnitude           : 13.255
RP magnitude          : 12.729
BP magnitude          : 13.599
DUPflag              : 0
Distance (au)         : 8.942
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 9.69
Sun-Target sep (deg)  : 95.58
Sun-Moon sep (deg)    : 33.00
B (ring opening deg) : -21.90
PA of pole (deg)      : -7.00
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.283
C/A sky separation (km) : 1833.1
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	2035-04-13T03:21:27.451	69.79	-18.66	2575.1	-43.37	-43.38
Titan	E	2035-04-13T03:27:55.568	68.56	-19.91	2575.1	-39.28	-39.29



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target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2035-04-13T03:25:55.350
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       : 670870803555589760
2Mass ID (if available) : 08012395+2100014
ICRS Star Coord at Epoch: 08h 01m 23.92645s +21:00:00.80815s
RUWE (>1.4 is poor) : 0.94
K magnitude           : 11.732
G magnitude           : 13.255
RP magnitude         : 12.729
BP magnitude         : 13.599
DUPflag              : 0
Distance (au)        : 8.942
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 9.69
Sun-Target sep (deg) : 95.58
Sun-Moon sep (deg)  : 33.08
B (ring opening deg) : -21.90
PA of pole (deg)    : -7.00
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.296
C/A sky separation (km) : 1920.6
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	2035-04-13T03:22:51.584	63.93	-25.31	2575.1	-45.89	-45.91
Titan	E	2035-04-13T03:28:59.121	62.65	-26.47	2575.1	-41.65	-41.67

