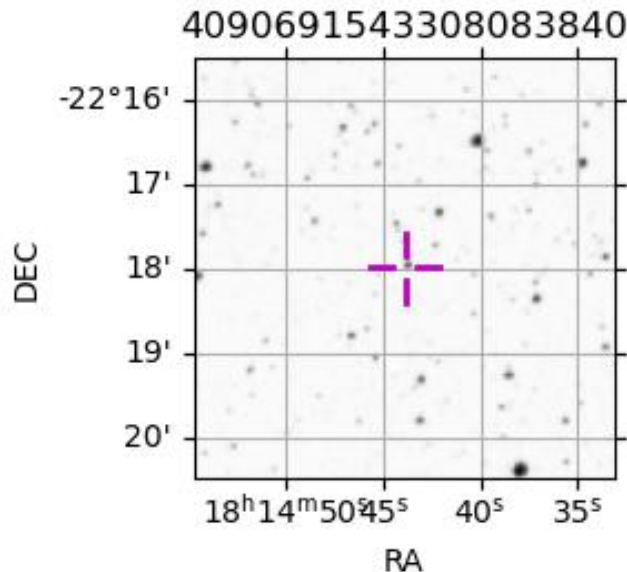
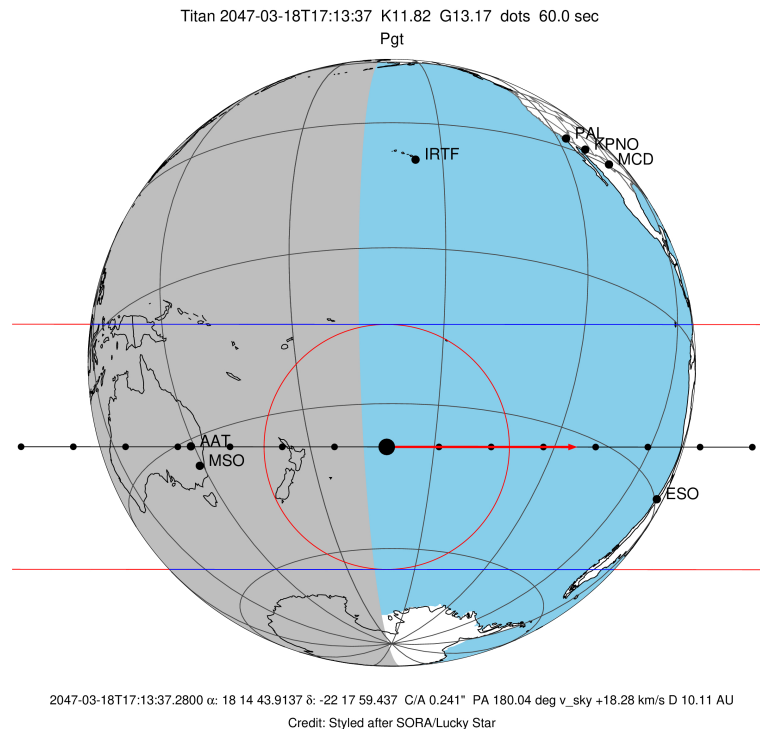


target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2047-03-18T17:13:37.280
 Event type : Pgt
 : Titan occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4090691543308083840
 2Mass ID (if available) : 18144391-2217593

ICRS Star Coord at Epoch: 18h 14m 43.91369s -22:17:59.43705s
 RUWE (>1.4 is poor) : 0.96
 K magnitude : 11.816
 G magnitude : 13.166
 RP magnitude : 12.724
 BP magnitude : 13.419
 DUPflag : 0
 Distance (au) : 10.108
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 18.27
 Sun-Target sep (deg) : 83.96
 Sun-Moon sep (deg) : 6.36
 B (ring opening deg) : 26.03
 PA of pole (deg) : 5.93
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.241
 C/A sky separation (km) : 1764.6
 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

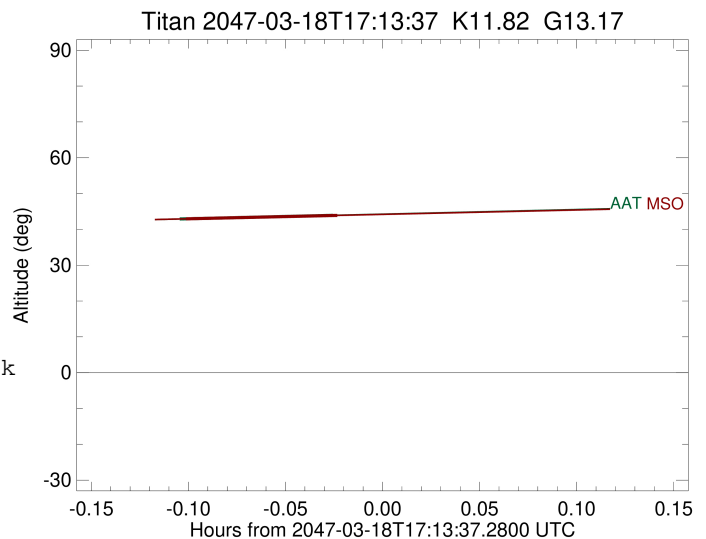
Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1			Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4			Pnn
MCD	McDonald Obs. 2.7m	30.7	256.0			Pnn
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	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			Pnn
AAT	Siding Spring (AAT)	-31.3	149.1	+ +	MAR 18 17:07 - MAR 18 17:12	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	MAR 18 17:07 - MAR 18 17:12	Pie



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2047-03-18T17:09:42.590
Event type          : Pgt
: Titan occs: geocentric, topocentric
: Not a ringed target
Observer code       : AAT
Location            : Siding Spring (AAT)
Latitude (deg)      : -31.27703
E. Longitude (deg)  : 149.06608
Altitude (km)       : 1.164
Gaia source ID      : 4090691543308083840
2Mass ID (if available) : 18144391-2217593
ICRS Star Coord at Epoch: 18h 14m 43.91369s -22:17:59.43705s
RUWE (>1.4 is poor) : 0.96
K magnitude          : 11.816
G magnitude          : 13.166
RP magnitude         : 12.724
BP magnitude         : 13.419
DUPflag             : 0
Distance (au)       : 10.108
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 18.27
Sun-Target sep (deg) : 83.96
Sun-Moon sep (deg)  : 5.75
B (ring opening deg) : 26.03
PA of pole (deg)    : 5.93
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.003
C/A sky separation (km) : 23.4
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

```



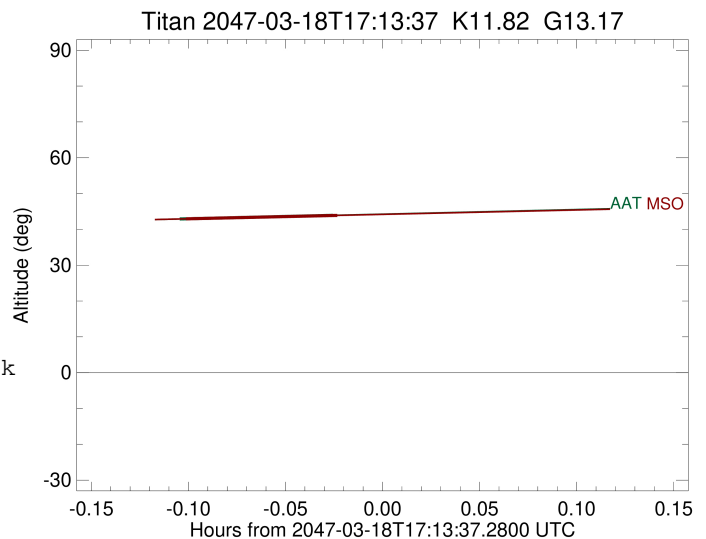
x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Titan	I	2047-03-18T17:07:19.793	42.89	-37.55	2575.1	5.37	5.37
Titan	E	2047-03-18T17:12:05.410	43.91	-36.66	2575.1	-4.57	-4.58

```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2047-03-18T17:09:53.160
Event type           : Pgt
: Titan occs: geocentric, topocentric
: 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       : 4090691543308083840
2Mass ID (if available) : 18144391-2217593
ICRS Star Coord at Epoch: 18h 14m 43.91369s -22:17:59.43705s
RUWE (>1.4 is poor) : 0.96
K magnitude          : 11.816
G magnitude          : 13.166
RP magnitude         : 12.724
BP magnitude         : 13.419
DUPflag             : 0
Distance (au)        : 10.108
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 18.27
Sun-Target sep (deg) : 83.96
Sun-Moon sep (deg)   : 5.74
B (ring opening deg) : 26.03
PA of pole (deg)     : 5.93
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.053
C/A sky separation (km) : 386.0
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	2047-03-18T17:07:32.064	42.93	-35.53	2575.2	-2.76	-2.76
Titan	E	2047-03-18T17:12:14.289	43.90	-34.70	2575.1	-12.71	-12.71