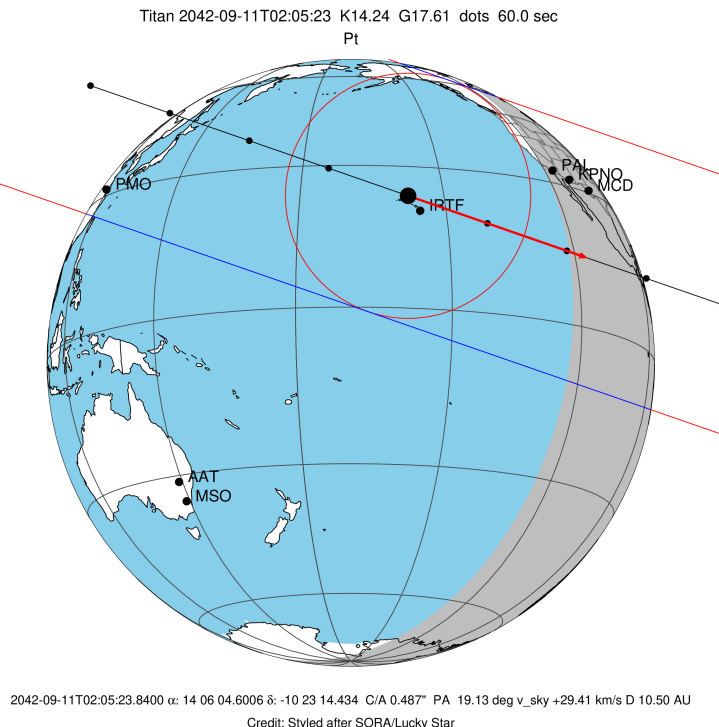


```

target           : Titan
target radius (km) : 2575.15
C/A epoch       : 2042-09-11T02:05:23.840
Event type      : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Gaia source ID  : 3614416125788143104
2Mass ID (if available) : 14060457-1023142

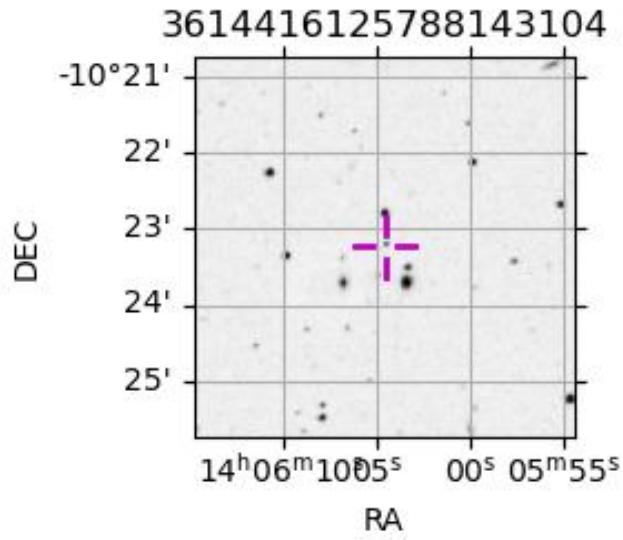
ICRS Star Coord at Epoch: 14h 06m 04.60057s -10:23:14.43436s
RUWE (>1.4 is poor) : 2.65
K magnitude     : 14.236
G magnitude     : 17.611
RP magnitude    : 16.463
BP magnitude    : 18.575
DUPflag        : 0
Distance (au)   : 10.503
f0 (km)        : 0.00
g0 (km)        : 0.00
skyplane vel. (km/s) : 29.41
Sun-Target sep (deg) : 45.09
Sun-Moon sep (deg) : 81.89
B (ring opening deg) : 16.89
PA of pole (deg) : -0.95
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.487
C/A sky separation (km) : 3710.7
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
    
```

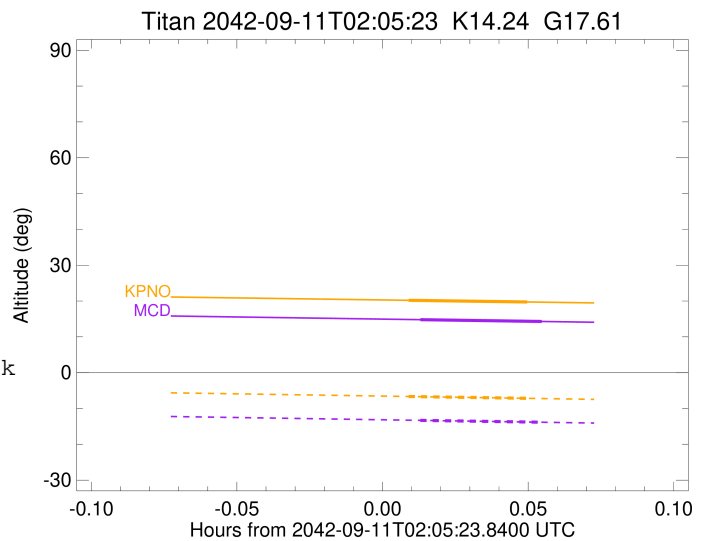
Obs	Location	lat	Elon	Target	Observed Events Interval	OEncode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1			Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	SEP 11 02:05 - SEP 11 02:08	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+ +	SEP 11 02:06 - SEP 11 02:08	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



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2042-09-11T02:07:09.750
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       : 3614416125788143104
2Mass ID (if available) : 14060457-1023142
ICRS Star Coord at Epoch: 14h 06m 04.60057s -10:23:14.43436s
RUWE (>1.4 is poor) : 2.65
K magnitude          : 14.236
G magnitude          : 17.611
RP magnitude         : 16.463
BP magnitude         : 18.575
DUPflag             : 0
Distance (au)        : 10.503
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 29.41
Sun-Target sep (deg) : 45.09
Sun-Moon sep (deg)  : 82.26
B (ring opening deg) : 16.89
PA of pole (deg)    : -0.95
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (" ) : 0.185
C/A sky separation (km) : 1406.7
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

```



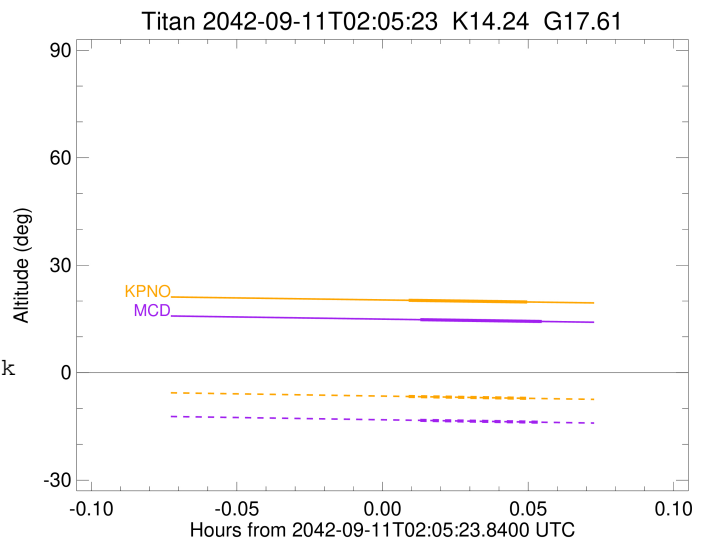
x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Titan	I	2042-09-11T02:05:55.874	20.20	-6.65	2575.2	12.43	12.44
Titan	E	2042-09-11T02:08:23.625	19.73	-7.17	2575.1	50.02	50.04

```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2042-09-11T02:07:25.380
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       : 3614416125788143104
2Mass ID (if available) : 14060457-1023142
ICRS Star Coord at Epoch: 14h 06m 04.60057s -10:23:14.43436s
RUWE (>1.4 is poor) : 2.65
K magnitude           : 14.236
G magnitude           : 17.611
RP magnitude         : 16.463
BP magnitude         : 18.575
DUPflag              : 0
Distance (au)        : 10.503
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 29.41
Sun-Target sep (deg) : 45.09
Sun-Moon sep (deg)  : 82.19
B (ring opening deg) : 16.89
PA of pole (deg)    : -0.95
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation ("): 0.173
C/A sky separation (km): 1319.1
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	2042-09-11T02:06:09.728	14.79	-13.31	2575.2	10.28	10.28
Titan	E	2042-09-11T02:08:41.012	14.29	-13.84	2575.1	47.93	47.94