

target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2048-07-19T11:10:13.410
 Event type : Pt
 : Titan occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 4078496516213965568
 2Mass ID (if available) : 18465495-2228424

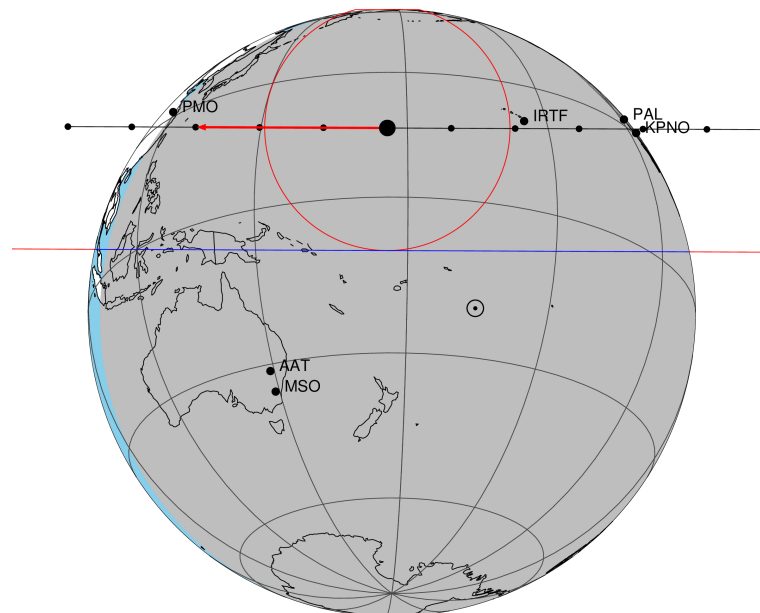
ICRS Star Coord at Epoch: 18h 46m 54.97660s -22:28:42.67462s
 RUWE (>1.4 is poor) : 1.04
 K magnitude : 14.857
 G magnitude : 17.382
 RP magnitude : 16.599
 BP magnitude : 18.033
 DUPflag : 0
 Distance (au) : 9.050
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -22.36
 Sun-Target sep (deg) : 164.03
 Sun-Moon sep (deg) : 65.19
 B (ring opening deg) : 25.41
 PA of pole (deg) : 6.44
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.593
 C/A sky separation (km) : 3891.9
 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

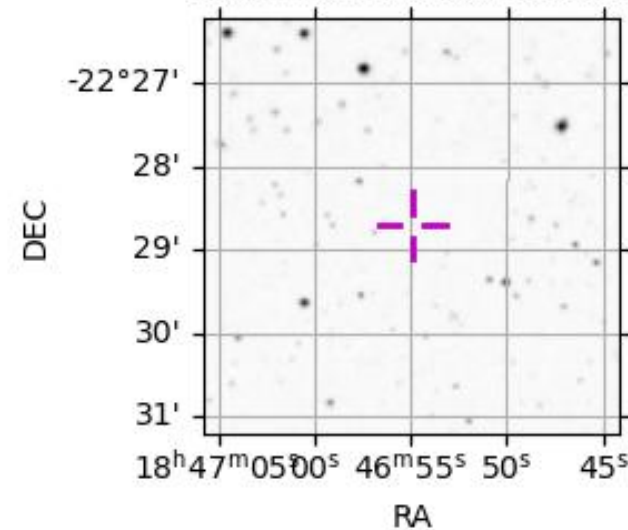
Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1	+ +	JUL 19 11:04 - JUL 19 11:08	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4			Pnn
MCD	McDonald Obs. 2.7m	30.7	256.0			Pnn
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+ +	JUL 19 11:06 - JUL 19 11:10	Pie
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

Titan 2048-07-19T11:10:13 K14.86 G17.38 dots 60.0 sec
 Pt



2048-07-19T11:10:13.4100 α: 18 46 54.9766 δ: -22 28 42.675 C/A 0.592" PA 0.24 deg v_sky -22.36 km/s D 09.05 AU
 Credit: Styled after SORA/Lucky Star

4078496516213965568



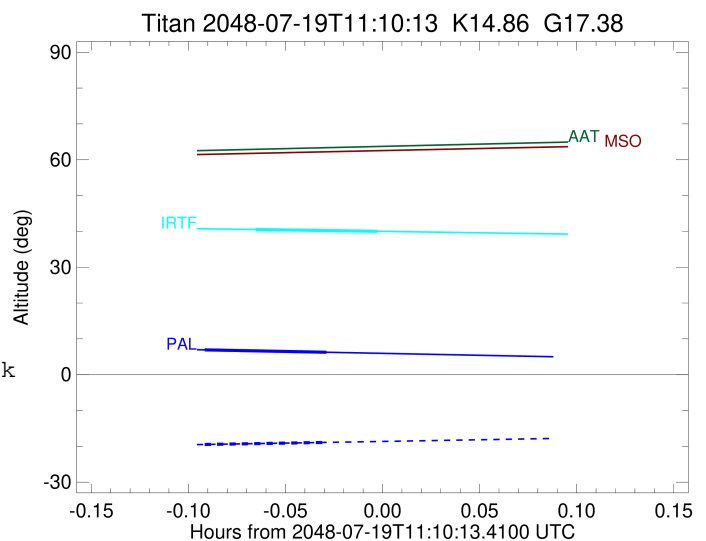
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target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2048-07-19T11:06:36.650
Event type            : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code         : PAL
Location              : Palomar Mt (200")
Latitude (deg)        : 33.35622
E. Longitude (deg)    : 243.13601
Altitude (km)         : 1.706
Gaia source ID        : 4078496516213965568
2Mass ID (if available) : 18465495-2228424
ICRS Star Coord at Epoch: 18h 46m 54.97660s -22:28:42.67462s
RUWE (>1.4 is poor) : 1.04
K magnitude           : 14.857
G magnitude           : 17.382
RP magnitude          : 16.599
BP magnitude          : 18.033
DUPflag              : 0
Distance (au)         : 9.050
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -22.36
Sun-Target sep (deg)  : 164.03
Sun-Moon sep (deg)    : 65.63
B (ring opening deg) : 25.41
PA of pole (deg)      : 6.44
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (" ) : 0.027
C/A sky separation (km) : 180.2
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	2048-07-19T11:04:42.634	6.93	-19.49	2575.2	-1.68	-1.68
Titan	E	2048-07-19T11:08:30.693	6.25	-18.90	2575.1	8.88	8.89



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target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2048-07-19T11:08:11.070
Event type           : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code        : IRTF
Location             : Mauna Kea/IRTF
Latitude (deg)       : 19.82622
E. Longitude (deg)  : 204.52800
Altitude (km)        : 4.168
Gaia source ID       : 4078496516213965568
2Mass ID (if available) : 18465495-2228424
ICRS Star Coord at Epoch: 18h 46m 54.97660s -22:28:42.67462s
RUWE (>1.4 is poor) : 1.04
K magnitude          : 14.857
G magnitude          : 17.382
RP magnitude         : 16.599
BP magnitude         : 18.033
DUPflag             : 0
Distance (au)        : 9.050
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -22.36
Sun-Target sep (deg) : 164.03
Sun-Moon sep (deg)  : 65.98
B (ring opening deg) : 25.41
PA of pole (deg)    : 6.44
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.021
C/A sky separation (km) : 135.4
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	2048-07-19T11:06:18.062	40.51	-48.58	2575.1	-2.72	-2.72
Titan	E	2048-07-19T11:10:04.105	40.02	-48.36	2575.1	8.11	8.12

