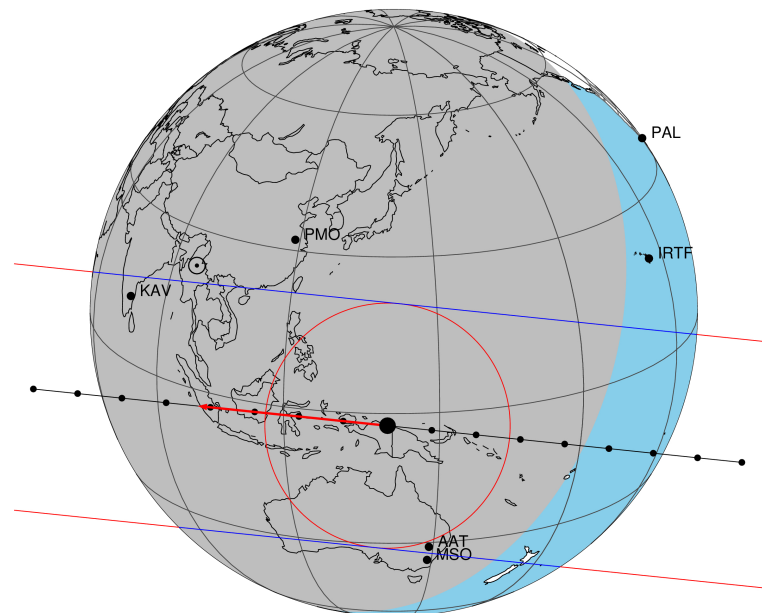


target : Titan  
 target radius (km) : 2575.15  
 C/A epoch : 2034-12-14T17:28:56.380  
 Event type : Pgt  
 : Titan occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 663719098892922368  
 2Mass ID (if available) : 08260318+1931172

Titan 2034-12-14T17:28:56 K9.13 G10.77 dots 60.0 sec  
 Pgt

ICRS Star Coord at Epoch: 08h 26m 03.16053s +19:31:13.48661s  
 RUWE (>1.4 is poor) : 1.00  
 K magnitude : 9.131  
 G magnitude : 10.768  
 RP magnitude : 10.205  
 BP magnitude : 11.163  
 DUPflag : 0  
 Distance (au) : 8.308  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : -15.57  
 Sun-Target sep (deg) : 138.19  
 Sun-Moon sep (deg) : 176.12  
 B (ring opening deg) : -19.73  
 PA of pole (deg) : -6.97  
 Pole direction: RA (deg): 39.48270  
 Dec (deg): 83.42790  
 C/A sky separation (") : 0.392  
 C/A sky separation (km) : 2363.4  
 NAIF SPICE kernels : RAJobs\_U111+rgf16.spk



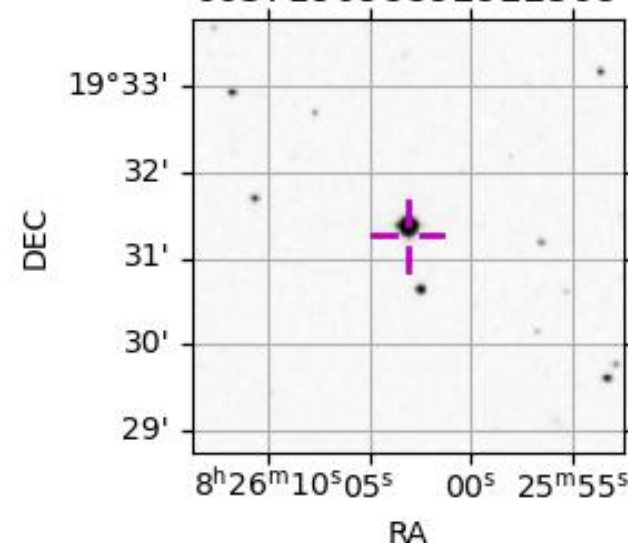
2034-12-14T17:28:56.3800 α: 08 26 03.1605 δ: +19 31 13.487 C/A 0.394" PA 185.92 deg v\_sky -15.58 km/s D 08.31 AU  
 Credit: Styled after SORA/Lucky Star

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

Observable events with sun below -5 deg and altitude above 5 deg

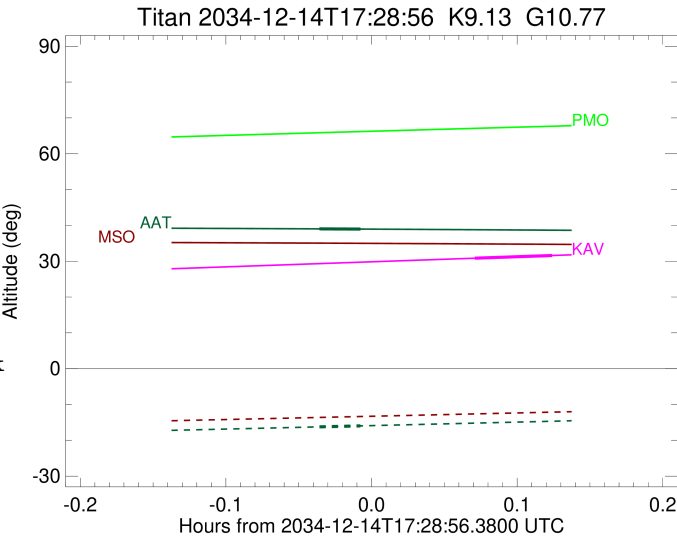
Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1			Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4			Pnn
MCD	McDonald Obs. 2.7m	30.7	256.0			Pnn
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5			Pnn
KAV	Kavalur Observatory	12.6	78.8	+ +	DEC 14 17:33 - DEC 14 17:36	Pie
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	+ +	DEC 14 17:26 - DEC 14 17:28	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn

663719098892922368



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2034-12-14T17:34:47.070
Event type           : Pgt
: Titan occs: geocentric, topocentric
: Not a ringed target
Observer code        : KAV
Location             : Kavalur Observatory
Latitude (deg)       : 12.57556
E. Longitude (deg)   : 78.83167
Altitude (km)        : 0.722
Gaia source ID       : 663719098892922368
2Mass ID (if available) : 08260318+1931172
ICRS Star Coord at Epoch: 08h 26m 03.16053s +19:31:13.48661s
RUWE (>1.4 is poor) : 1.00
K magnitude          : 9.131
G magnitude          : 10.768
RP magnitude         : 10.205
BP magnitude         : 11.163
DUPflag             : 0
Distance (au)        : 8.308
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.57
Sun-Target sep (deg) : 138.19
Sun-Moon sep (deg)   : 176.16
B (ring opening deg) : -19.73
PA of pole (deg)     : -6.97
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.346
C/A sky separation (km) : 2083.6
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
    
```



```

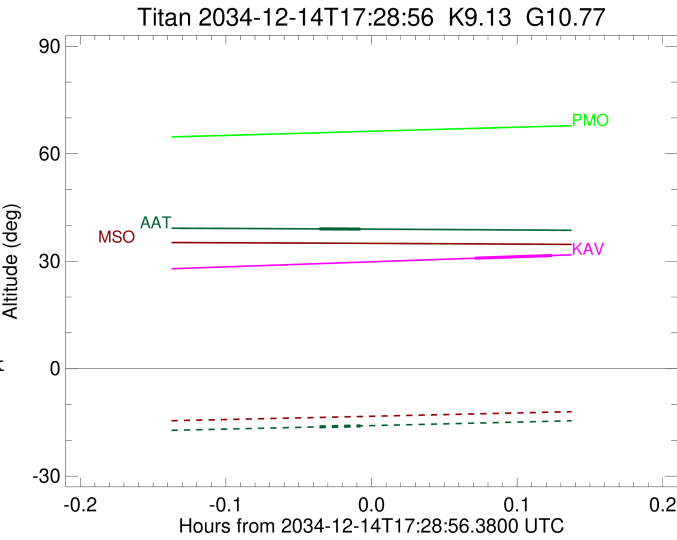
x: target alt < 5.0 deg or sun > -5.0 deg

```

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Titan	I	2034-12-14T17:33:11.330	30.83	-70.96	2575.1	60.27	60.28
Titan	E	2034-12-14T17:36:22.807	31.58	-71.58	2575.1	37.89	37.90

```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2034-12-14T17:27:38.560
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       : 663719098892922368
2Mass ID (if available) : 08260318+1931172
ICRS Star Coord at Epoch: 08h 26m 03.16053s +19:31:13.48661s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 9.131
G magnitude           : 10.768
RP magnitude          : 10.205
BP magnitude          : 11.163
DUPflag              : 0
Distance (au)         : 8.308
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.57
Sun-Target sep (deg) : 138.19
Sun-Moon sep (deg)   : 175.45
B (ring opening deg) : -19.73
PA of pole (deg)     : -6.97
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.405
C/A sky separation (km) : 2437.5
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	2034-12-14T17:26:46.563	39.02	-16.25	2575.2	-53.38	-53.39
Titan	E	2034-12-14T17:28:30.560	38.96	-15.97	2575.1	-69.38	-69.39