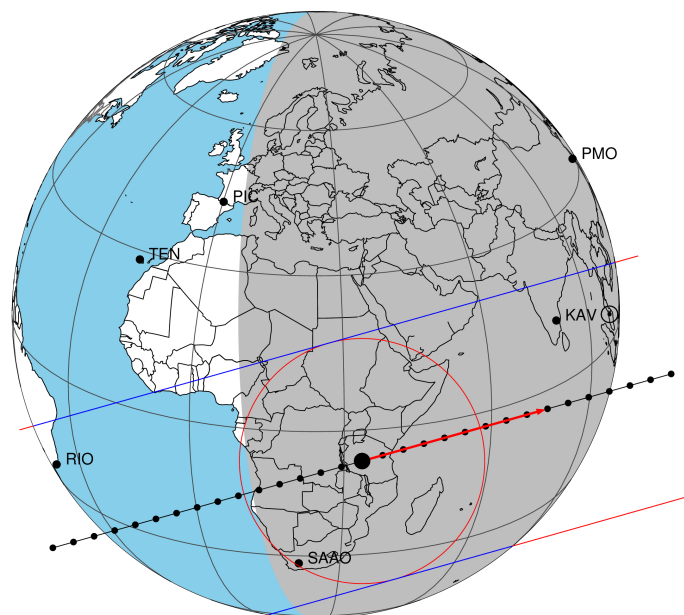


target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2033-03-05T17:27:24.670
 Event type : Pt
 : Titan occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 3424508370073419264
 2Mass ID (if available) : 05590246+2238029

ICRS Star Coord at Epoch: 05h 59m 02.45526s +22:38:03.00183s
 RUWE (>1.4 is poor) : 1.04
 K magnitude : 12.528
 G magnitude : 16.753
 RP magnitude : 15.541
 BP magnitude : 18.028
 DUPflag : 0
 Distance (au) : 8.719
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 7.49
 Sun-Target sep (deg) : 104.78
 Sun-Moon sep (deg) : 44.19
 B (ring opening deg) : -26.73
 PA of pole (deg) : -5.66
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.506
 C/A sky separation (km) : 3199.2
 NAIF SPICE kernels : RAJobs_U111+rgf16.spk

Titan 2033-03-05T17:27:24 K12.53 G16.75 dots 60.0 sec
 Pt

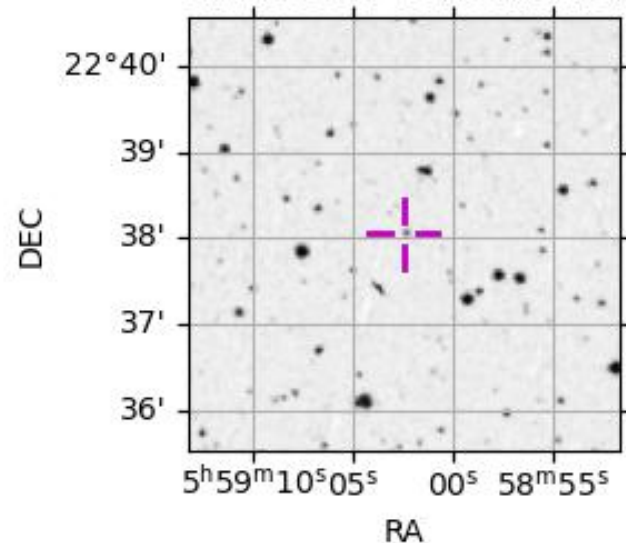


2033-03-05T17:27:24.6700 α: 05 59 02.4553 δ: +22 38 03.002 C/A 0.509" PA 164.29 deg v_sky + 7.49 km/s D 08.72 AU
 Credit: Styled after SORA/Lucky Star

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

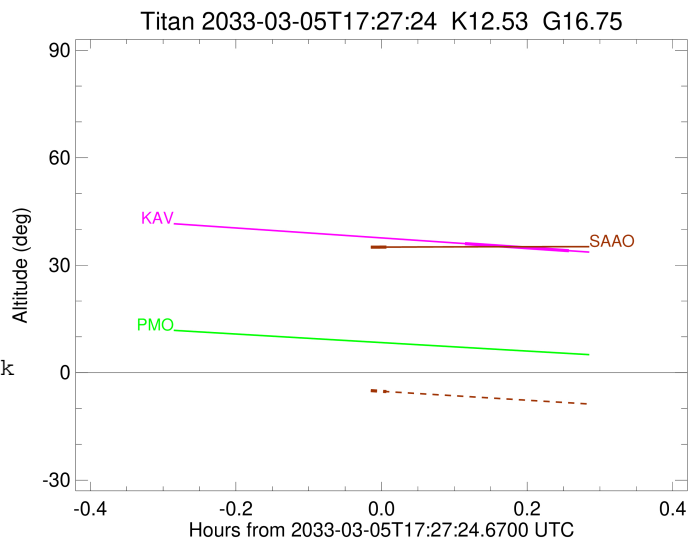
Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1			Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4			Pnn
MCD	McDonald Obs. 2.7m	30.7	256.0			Pnn
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5			Pnn
KAV	Kavalur Observatory	12.6	78.8	+ +	MAR 05 17:34 - MAR 05 17:42	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			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+ +	MAR 05 17:27 - MAR 05 17:27	Pne
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn

3424508370073419264



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2033-03-05T17:38:32.860
Event type            : Pt
: Titan occs: topocentric, not geocentric
: 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        : 3424508370073419264
2Mass ID (if available) : 05590246+2238029
ICRS Star Coord at Epoch: 05h 59m 02.45526s +22:38:03.00183s
RUWE (>1.4 is poor)  : 1.04
K magnitude           : 12.528
G magnitude           : 16.753
RP magnitude          : 15.541
BP magnitude          : 18.028
DUPflag              : 0
Distance (au)         : 8.719
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 7.49
Sun-Target sep (deg)  : 104.78
Sun-Moon sep (deg)    : 45.17
B (ring opening deg) : -26.73
PA of pole (deg)     : -5.66
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.280
C/A sky separation (km) : 1769.6
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
    
```

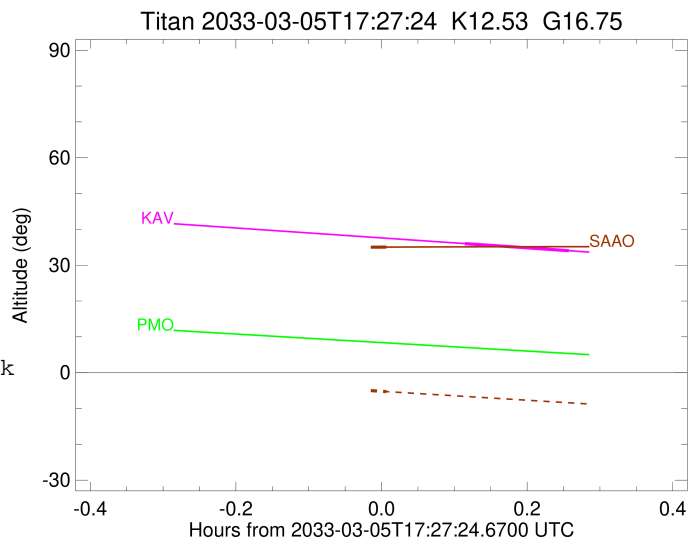


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Titan	I	2033-03-05T17:34:13.483	36.04	-68.73	2575.1	45.45	45.46
Titan	E	2033-03-05T17:42:52.024	34.04	-70.73	2575.1	29.87	29.88

```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2033-03-05T17:23:16.530
Event type           : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code        : SAAO
Location             : So. Afr. Astro. Obs. (Sutherland)
Latitude (deg)       : -32.37953
E. Longitude (deg)   : 20.81070
Altitude (km)        : 1.768
Gaia source ID       : 3424508370073419264
2Mass ID (if available) : 05590246+2238029
ICRS Star Coord at Epoch: 05h 59m 02.45526s +22:38:03.00183s
RUWE (>1.4 is poor) : 1.04
K magnitude           : 12.528
G magnitude           : 16.753
RP magnitude          : 15.541
BP magnitude          : 18.028
DUPflag              : 0
Distance (au)        : 8.719
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 7.49
Sun-Target sep (deg) : 104.78
Sun-Moon sep (deg)   : 44.53
B (ring opening deg) : -26.73
PA of pole (deg)     : -5.66
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.268
C/A sky separation (km) : 1692.9
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	2033-03-05T17:18:43.982	34.86	-3.39x	2575.1	-26.62	-26.64
Titan	E	2033-03-05T17:27:49.120	35.05	-5.28	2575.1	-44.80	-44.81