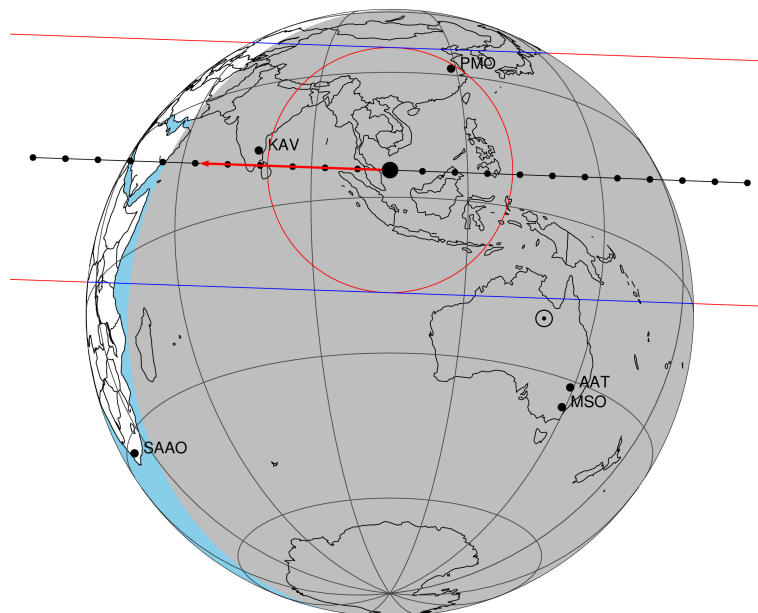


target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2047-07-22T14:55:11.960
 Event type : Pt
 : Titan occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 4070253133956468864
 2Mass ID (if available) : 17534912-2223212

ICRS Star Coord at Epoch: 17h 53m 49.11047s -22:23:21.34506s
 RUWE (>1.4 is poor) : 0.98
 K magnitude : 11.582
 G magnitude : 17.519
 RP magnitude : 16.105
 BP magnitude : 19.861
 DUPflag : 0
 Distance (au) : 9.164
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -11.38
 Sun-Target sep (deg) : 149.46
 Sun-Moon sep (deg) : 153.48
 B (ring opening deg) : 26.61
 PA of pole (deg) : 5.54
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.451
 C/A sky separation (km) : 2999.2
 NAIF SPICE kernels : RAJobs_U111+rgf16.spk

Titan 2047-07-22T14:55:11 K11.58 G17.52 dots 60.0 sec
 Pt

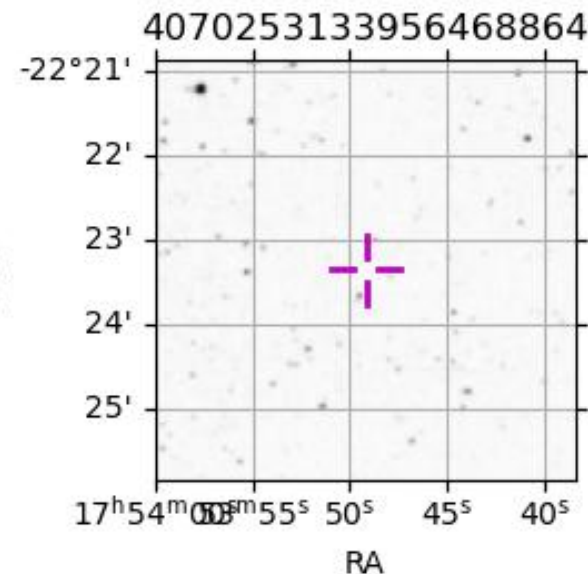


2047-07-22T14:55:11.9600 α: 17 53 49.1105 δ: -22 23 21.345 C/A 0.451" PA 2.04 deg v_sky -11.37 km/s D 09.16 AU
 Credit: Styled after SORA/Lucky Star

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

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

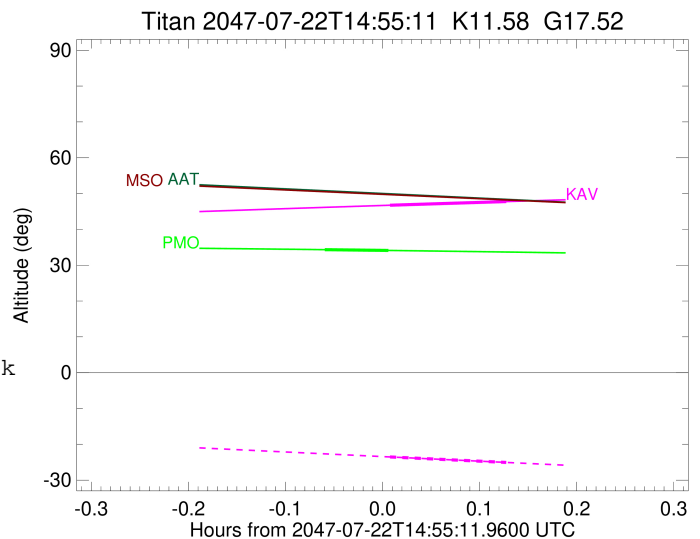
Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1			Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8	+ +	JUL 22 14:51 - JUL 22 14:55	Pie
KPNO	Kitt Peak Natl Obs	32.0	248.4			Pnn
MCD	McDonald Obs. 2.7m	30.7	256.0			Pnn
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5			Pnn
KAV	Kavalur Observatory	12.6	78.8	+ +	JUL 22 14:55 - JUL 22 15:02	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			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2047-07-22T14:53:36.140
Event type           : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code        : PMO
Location             : Purple Mtn Obs. Nanking
Latitude (deg)       : 32.06667
E. Longitude (deg)  : 118.82089
Altitude (km)        : 0.364
Gaia source ID       : 4070253133956468864
2Mass ID (if available) : 17534912-2223212
ICRS Star Coord at Epoch: 17h 53m 49.11047s -22:23:21.34506s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 11.582
G magnitude           : 17.519
RP magnitude         : 16.105
BP magnitude         : 19.861
DUPflag              : 0
Distance (au)        : 9.164
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -11.38
Sun-Target sep (deg) : 149.46
Sun-Moon sep (deg)  : 153.54
B (ring opening deg) : 26.61
PA of pole (deg)    : 5.54
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.324
C/A sky separation (km) : 2155.1
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	2047-07-22T14:51:36.271	34.33	-34.54	2575.1	45.89	45.91
Titan	E	2047-07-22T14:55:36.042	34.11	-34.86	2575.1	50.89	50.90

```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2047-07-22T14:59:14.120
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       : 4070253133956468864
2Mass ID (if available) : 17534912-2223212
ICRS Star Coord at Epoch: 17h 53m 49.11047s -22:23:21.34506s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 11.582
G magnitude           : 17.519
RP magnitude          : 16.105
BP magnitude          : 19.861
DUPflag              : 0
Distance (au)        : 9.164
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -11.38
Sun-Target sep (deg) : 149.46
Sun-Moon sep (deg)   : 154.15
B (ring opening deg) : 26.61
PA of pole (deg)     : 5.54
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.051
C/A sky separation (km) : 340.7
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	2047-07-22T14:55:37.358	46.73	-23.52	2575.2	3.28	3.28
Titan	E	2047-07-22T15:02:50.899	47.75	-25.06	2575.1	10.30	10.31

