

target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2047-07-31T04:59:11.870
 Event type : Pt
 : Titan occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 4070413937585004032
 2Mass ID (if available) : 17515980-2226534

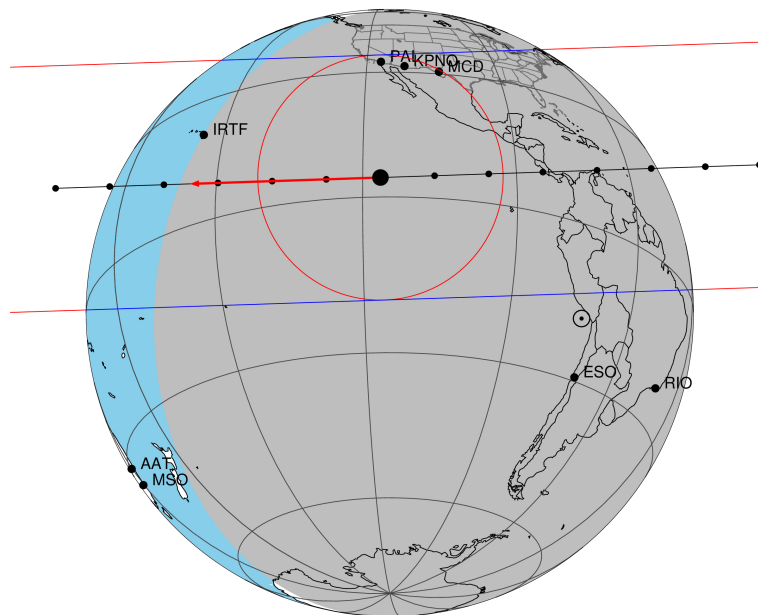
ICRS Star Coord at Epoch: 17h 51m 59.79029s -22:26:53.54678s
 RUWE (>1.4 is poor) : 0.94
 K magnitude : 13.519
 G magnitude : 15.391
 RP magnitude : 14.690
 BP magnitude : 15.909
 DUPflag : 0
 Distance (au) : 9.232
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -18.95
 Sun-Target sep (deg) : 140.84
 Sun-Moon sep (deg) : 34.11
 B (ring opening deg) : 26.71
 PA of pole (deg) : 5.51
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.425
 C/A sky separation (km) : 2842.6
 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 31 04:58 - JUL 31 04:59	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	JUL 31 04:57 - JUL 31 04:59	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+ +	JUL 31 04:56 - JUL 31 04:59	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

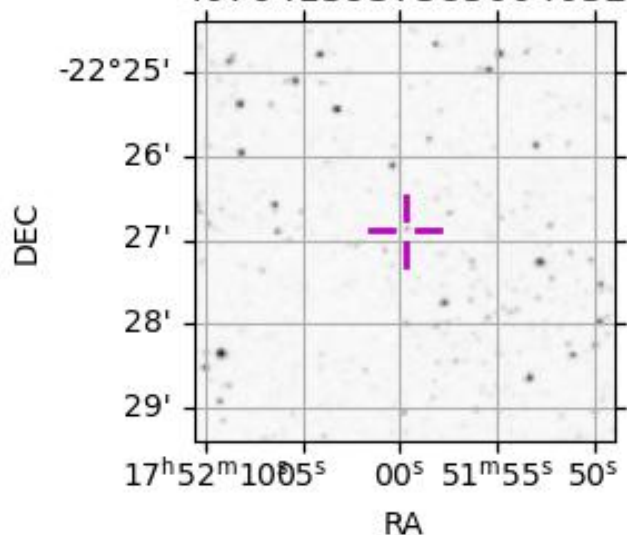
Titan 2047-07-31T04:59:11 K13.52 G15.39 dots 60.0 sec
 Pt



2047-07-31T04:59:11.8700 cc: 17 51 59.7903 d: -22 26 53.547 C/A 0.425" PA 358.08 deg v_sky -18.96 km/s D 09.23 AU

Credit: Styled after SORA/Lucky Star

4070413937585004032



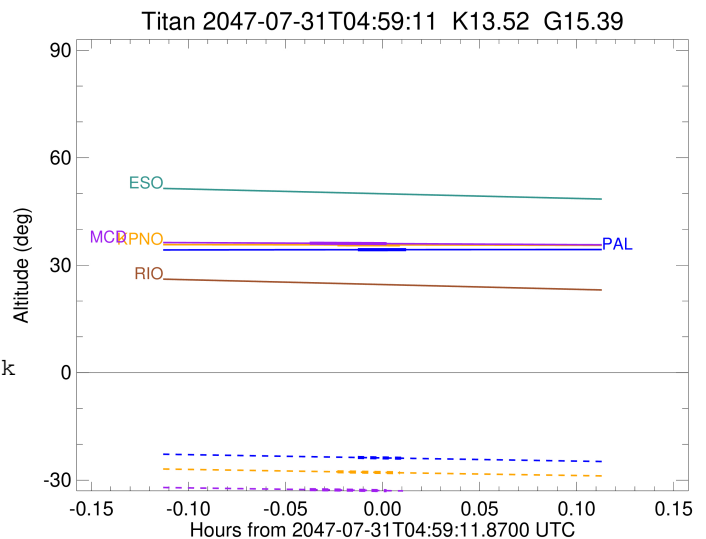
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target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2047-07-31T04:59:11.110
Event type            : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code         : PAL
Location              : Palomar Mt (200")
Latitude (deg)        : 33.35622
E. Longitude (deg)   : 243.13601
Altitude (km)         : 1.706
Gaia source ID        : 4070413937585004032
2Mass ID (if available) : 17515980-2226534
ICRS Star Coord at Epoch: 17h 51m 59.79029s -22:26:53.54678s
RUWE (>1.4 is poor) : 0.94
K magnitude           : 13.519
G magnitude           : 15.391
RP magnitude          : 14.690
BP magnitude          : 15.909
DUPflag              : 0
Distance (au)         : 9.232
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -18.95
Sun-Target sep (deg)  : 140.84
Sun-Moon sep (deg)   : 34.51
B (ring opening deg) : 26.71
PA of pole (deg)     : 5.51
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.362
C/A sky separation (km) : 2420.6
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

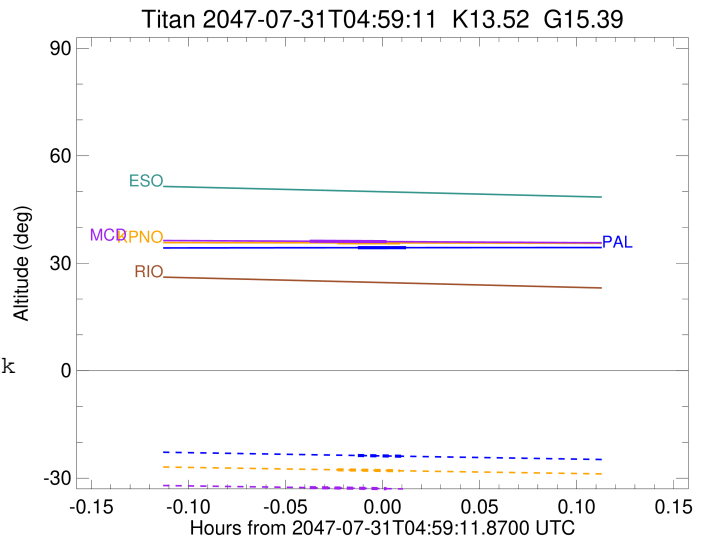
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x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Titan	I	2047-07-31T04:58:25.698	34.32	-23.68	2575.1	52.52	52.53
Titan	E	2047-07-31T04:59:56.521	34.34	-23.90	2575.1	60.69	60.70



target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2047-07-31T04:58:45.830
 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 : 4070413937585004032
 2Mass ID (if available) : 17515980-2226534
 ICRS Star Coord at Epoch: 17h 51m 59.79029s -22:26:53.54678s
 RUWE (>1.4 is poor) : 0.94
 K magnitude : 13.519
 G magnitude : 15.391
 RP magnitude : 14.690
 BP magnitude : 15.909
 DUPflag : 0
 Distance (au) : 9.232
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -18.95
 Sun-Target sep (deg) : 140.84
 Sun-Moon sep (deg) : 34.58
 B (ring opening deg) : 26.71
 PA of pole (deg) : 5.51
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.345
 C/A sky separation (km) : 2312.1
 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	2047-07-31T04:57:47.240	35.68	-27.67	2575.1	48.17	48.19
Titan	E	2047-07-31T04:59:44.410	35.65	-27.94	2575.1	57.76	57.77

target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2047-07-31T04:58:08.740
 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 : 4070413937585004032
 2Mass ID (if available) : 17515980-2226534
 ICRS Star Coord at Epoch: 17h 51m 59.79029s -22:26:53.54678s
 RUWE (>1.4 is poor) : 0.94
 K magnitude : 13.519
 G magnitude : 15.391
 RP magnitude : 14.690
 BP magnitude : 15.909
 DUPflag : 0
 Distance (au) : 9.232
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -18.95
 Sun-Target sep (deg) : 140.84
 Sun-Moon sep (deg) : 34.67
 B (ring opening deg) : 26.71
 PA of pole (deg) : 5.51
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.324
 C/A sky separation (km) : 2167.7
 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	2047-07-31T04:56:56.903	36.13	-32.64	2575.0	43.21	43.23
Titan	E	2047-07-31T04:59:20.578	36.02	-32.94	2575.1	53.82	53.83

