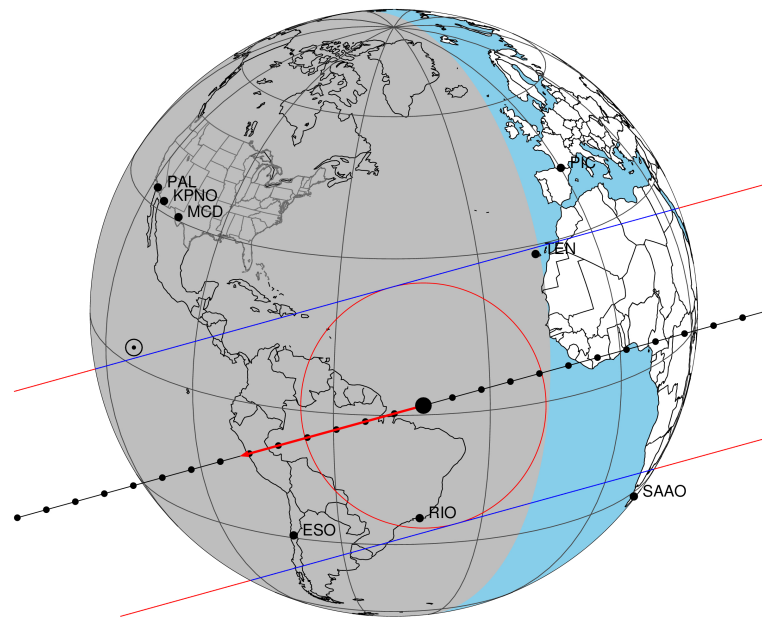


target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2030-10-02T06:59:29.820
 Event type : Pgt
 : Titan occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 48106348134662784
 2Mass ID (if available) : 04275148+1942029

ICRS Star Coord at Epoch: 04h 27m 51.48633s +19:42:02.88628s
 RUWE (>1.4 is poor) : 1.07
 K magnitude : 14.900
 G magnitude : 18.319
 RP magnitude : 17.512
 BP magnitude : 19.028
 DUPflag : 0
 Distance (au) : 8.523
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -10.53
 Sun-Target sep (deg) : 120.32
 Sun-Moon sep (deg) : 174.13
 B (ring opening deg) : -25.50
 PA of pole (deg) : -3.35
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.330
 C/A sky separation (km) : 2040.0
 NAIF SPICE kernels : RAJobs_U111+rgf16.spk
 URKALLv1.spk
 naif0012.tls
 nep097.bsp
 nep101.bsp
 sat4401.bsp

Titan 2030-10-02T06:59:29 K14.90 G18.32 dots 60.0 sec
 Pgt

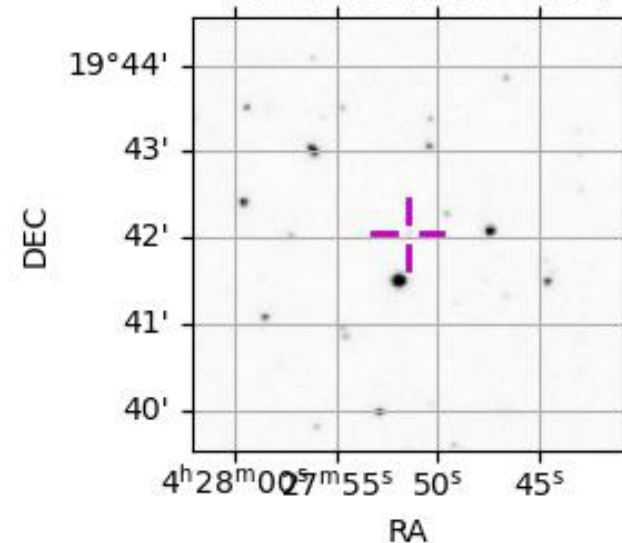


2030-10-02T06:59:29.8200 α: 04 27 51.4863 δ: +19 42 02.886 C/A 0.331" PA 164.56 deg v_sky -10.53 km/s D 08.52 AU
 Credit: Styled after SORA/Lucky Star

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			Pnn
RIO	Rio de Janeiro	-22.9	316.8	+ +	OCT 02 06:58 - OCT 02 07:02	Pie
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+ +	OCT 02 07:01 - OCT 02 07:07	Pie
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

48106348134662784



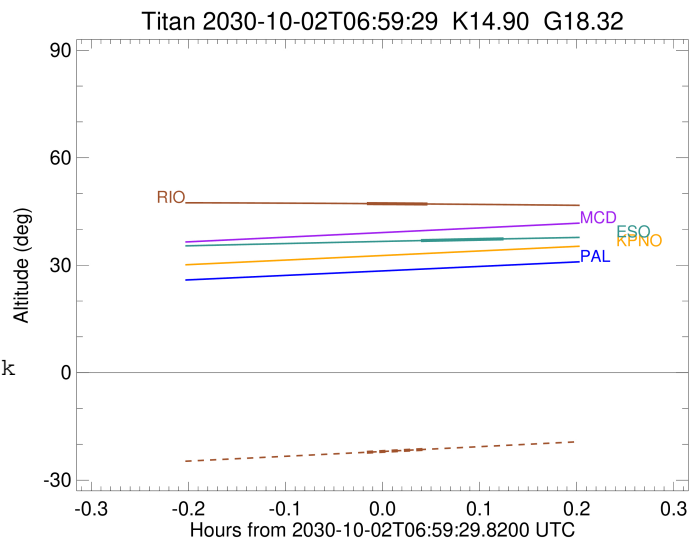
```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2030-10-02T07:00:23.630
Event type           : Pgt
: Titan occs: geocentric, topocentric
: Not a ringed target
Observer code        : RIO
Location             : Rio de Janeiro
Latitude (deg)       : -22.89506
E. Longitude (deg)   : 316.77708
Altitude (km)        : 0.033
Gaia source ID       : 48106348134662784
2Mass ID (if available) : 04275148+1942029
ICRS Star Coord at Epoch: 04h 27m 51.48633s +19:42:02.88628s
RUWE (>1.4 is poor) : 1.07
K magnitude          : 14.900
G magnitude          : 18.319
RP magnitude         : 17.512
BP magnitude         : 19.028
DUPflag             : 0
Distance (au)        : 8.523
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -10.53
Sun-Target sep (deg) : 120.32
Sun-Moon sep (deg)   : 174.36
B (ring opening deg) : -25.50
PA of pole (deg)     : -3.35
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation ("): 0.365
C/A sky separation (km): 2256.8
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	2030-10-02T06:58:30.340	47.19	-22.22	2575.1	-59.55	-59.56
Titan	E	2030-10-02T07:02:16.943	47.08	-21.38	2575.1	-43.46	-43.47



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2030-10-02T07:04:26.990
Event type           : Pgt
: Titan occs: geocentric, topocentric
: Not a ringed target
Observer code        : ESO
Location             : European Southern Obs. (3.6m)
Latitude (deg)       : -29.26097
E. Longitude (deg)   : 289.26831
Altitude (km)        : 2.400
Gaia source ID       : 48106348134662784
2Mass ID (if available) : 04275148+1942029
ICRS Star Coord at Epoch: 04h 27m 51.48633s +19:42:02.88628s
RUWE (>1.4 is poor) : 1.07
K magnitude          : 14.900
G magnitude          : 18.319
RP magnitude         : 17.512
BP magnitude         : 19.028
DUPflag             : 0
Distance (au)        : 8.523
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -10.53
Sun-Target sep (deg) : 120.32
Sun-Moon sep (deg)   : 174.75
B (ring opening deg) : -25.50
PA of pole (deg)     : -3.35
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.315
C/A sky separation (km) : 1946.7
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	2030-10-02T07:01:52.095	36.87	-41.46	2575.0	-51.72	-51.73
Titan	E	2030-10-02T07:07:01.879	37.34	-40.54	2575.1	-33.57	-33.59

