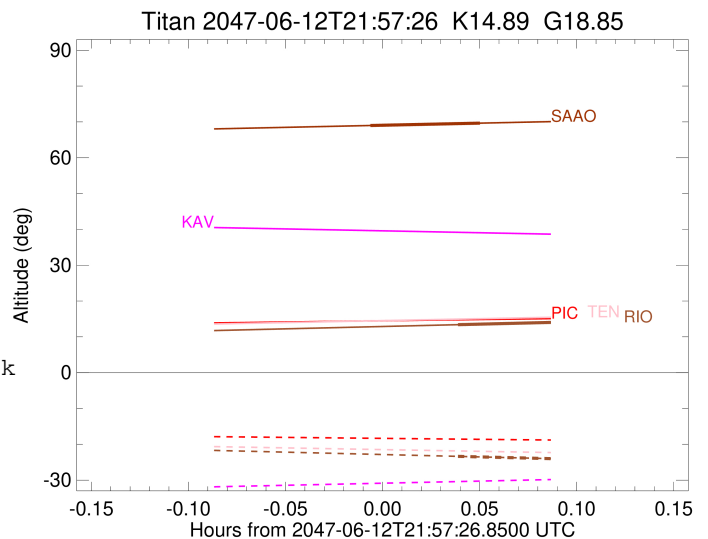



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2047-06-12T22:01:27.500
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       : 4069684407228386048
2Mass ID (if available) : 18060048-2222023
ICRS Star Coord at Epoch: 18h 06m 00.49160s -22:22:02.27972s
RUWE (>1.4 is poor) : 0.99
K magnitude          : 14.886
G magnitude          : 18.848
RP magnitude         : 17.688
BP magnitude         : 20.651
DUPflag             : 0
Distance (au)        : 9.039
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -24.71
Sun-Target sep (deg) : 169.77
Sun-Moon sep (deg)   : 52.77
B (ring opening deg) : 26.31
PA of pole (deg)     : 5.78
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.079
C/A sky separation (km) : 515.2
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

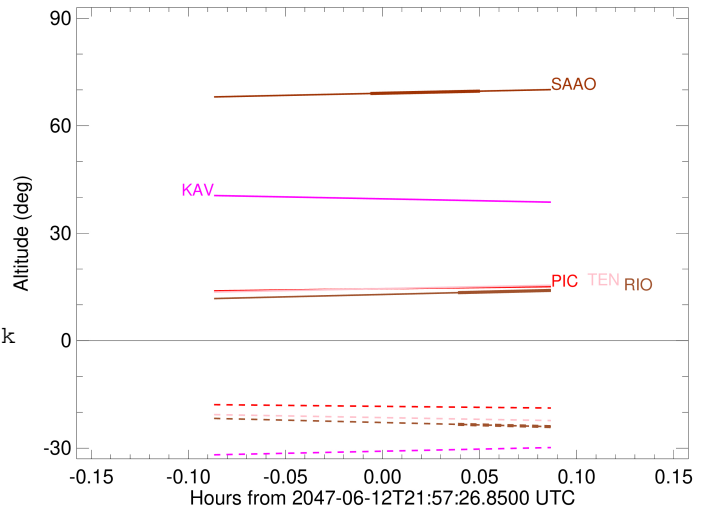
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Titan	I	2047-06-12T21:59:45.655	13.39	-23.36	2575.1	-18.24	-18.25
Titan	E	2047-06-12T22:03:09.324	14.13	-24.11	2575.2	-2.37	-2.37

```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2047-06-12T21:58:45.890
Event type           : Pgt
: Titan occs: geocentric, topocentric
: 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       : 4069684407228386048
2Mass ID (if available) : 18060048-2222023
ICRS Star Coord at Epoch: 18h 06m 00.49160s -22:22:02.27972s
RUWE (>1.4 is poor) : 0.99
K magnitude           : 14.886
G magnitude           : 18.848
RP magnitude          : 17.688
BP magnitude          : 20.651
DUPflag              : 0
Distance (au)        : 9.039
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -24.71
Sun-Target sep (deg) : 169.77
Sun-Moon sep (deg)   : 52.95
B (ring opening deg) : 26.31
PA of pole (deg)     : 5.78
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.015
C/A sky separation (km) : 97.6
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

```

Titan 2047-06-12T21:57:26 K14.89 G18.85



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	2047-06-12T21:57:03.320	68.98	-77.43	2575.1	-5.79	-5.80
Titan	E	2047-06-12T22:00:28.448	69.65	-77.95	2575.1	9.62	9.63