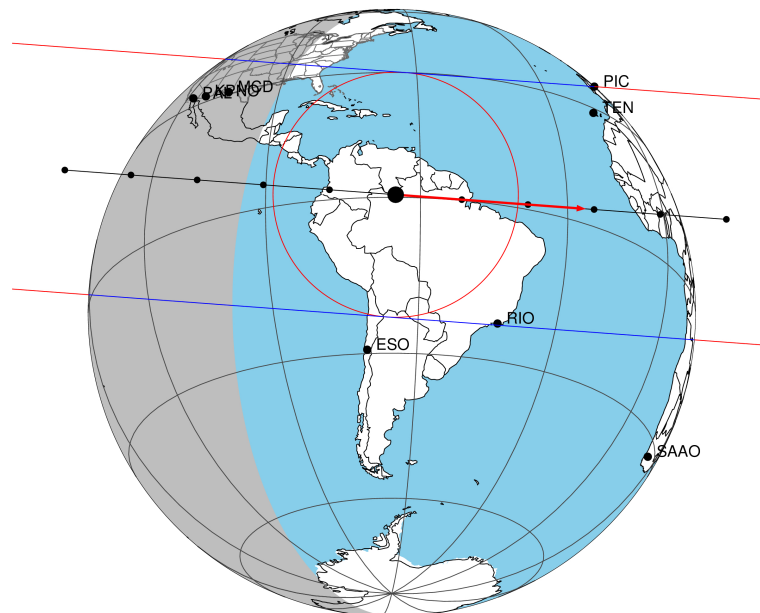


```

target           : Titan
target radius (km) : 2575.15
C/A epoch       : 2047-02-19T12:34:32.580
Event type      : Pgt
: Titan occs: geocentric, topocentric
: Not a ringed target
Gaia source ID  : 4069725608837240192
2Mass ID (if available) : 18074223-2222319

ICRS Star Coord at Epoch: 18h 07m 42.22132s -22:22:32.21306s
RUWE (>1.4 is poor) : 1.15
K magnitude     : 10.593
G magnitude     : 18.707
RP magnitude    : 16.918
BP magnitude    : 21.171
DUPflag        : 0
Distance (au)   : 10.525
f0 (km)        : 0.00
g0 (km)        : 0.00
skyplane vel. (km/s) : 23.22
Sun-Target sep (deg) : 58.34
Sun-Moon sep (deg) : 4.71
B (ring opening deg) : 26.28
PA of pole (deg) : 5.81
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.326
C/A sky separation (km) : 2489.4
NAIF SPICE kernels : RAJobs_U111+rgf16.spk
    
```

Titan 2047-02-19T12:34:32 K10.59 G18.71 dots 60.0 sec
Pgt



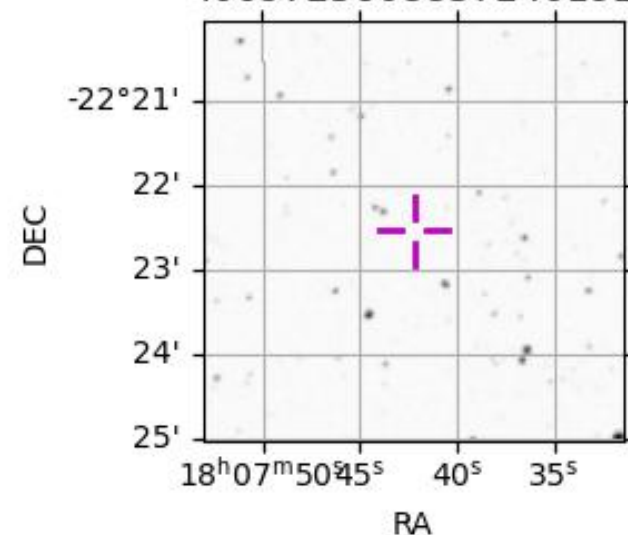
2047-02-19T12:34:32.5800 α: 18 07 42.2213 δ: -22 22 32.213 C/A 0.325" PA 4.27 deg v_sky +23.21 km/s D 10.52 AU
Credit: Styled after SORA/Lucky Star

```

URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat4401.bsp
Observable events with sun below -5 deg and altitude above 5 deg
    
```

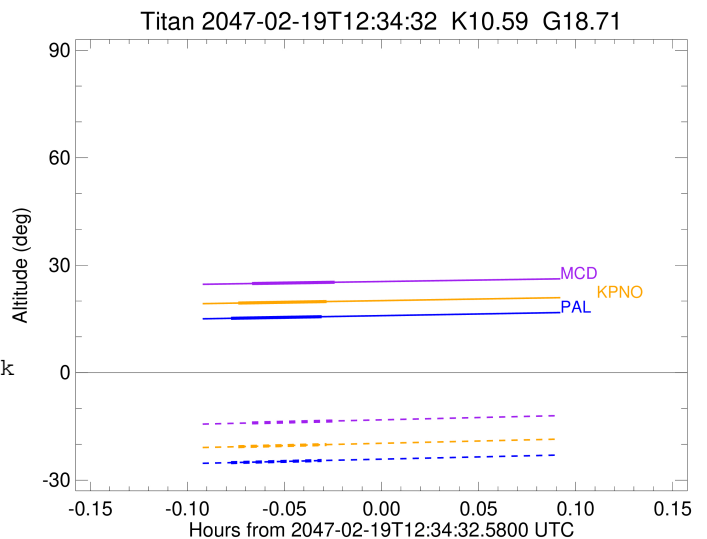
Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1	+ +	FEB 19 12:29 - FEB 19 12:32	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	FEB 19 12:30 - FEB 19 12:32	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+ +	FEB 19 12:30 - FEB 19 12:33	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

4069725608837240192



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2047-02-19T12:31:17.550
Event type            : Pgt
: Titan occs: geocentric, topocentric
: 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        : 4069725608837240192
2Mass ID (if available) : 18074223-2222319
ICRS Star Coord at Epoch: 18h 07m 42.22132s -22:22:32.21306s
RUWE (>1.4 is poor) : 1.15
K magnitude           : 10.593
G magnitude           : 18.707
RP magnitude          : 16.918
BP magnitude          : 21.171
DUPflag              : 0
Distance (au)         : 10.525
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 23.22
Sun-Target sep (deg) : 58.34
Sun-Moon sep (deg)   : 4.86
B (ring opening deg) : 26.28
PA of pole (deg)     : 5.81
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (" ) : 0.219
C/A sky separation (km) : 1675.0
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
    
```



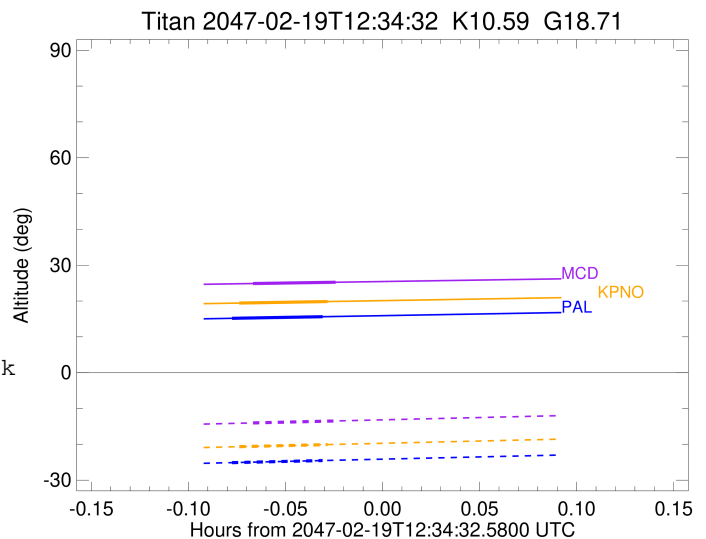
x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Titan	I	2047-02-19T12:29:52.493	15.17	-25.12	2575.1	36.69	36.71
Titan	E	2047-02-19T12:32:42.632	15.62	-24.53	2575.1	34.66	34.68

```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2047-02-19T12:31:28.550
Event type            : Pgt
: Titan occs: geocentric, topocentric
: 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        : 4069725608837240192
2Mass ID (if available) : 18074223-2222319
ICRS Star Coord at Epoch: 18h 07m 42.22132s -22:22:32.21306s
RUWE (>1.4 is poor)  : 1.15
K magnitude           : 10.593
G magnitude           : 18.707
RP magnitude          : 16.918
BP magnitude          : 21.171
DUPflag              : 0
Distance (au)         : 10.525
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 23.22
Sun-Target sep (deg)  : 58.34
Sun-Moon sep (deg)    : 4.90
B (ring opening deg)  : 26.28
PA of pole (deg)      : 5.81
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.228
C/A sky separation (km) : 1737.8
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	2047-02-19T12:30:05.786	19.43	-20.66	2575.1	38.25	38.26
Titan	E	2047-02-19T12:32:51.327	19.85	-20.07	2575.1	36.22	36.23

```

target                : Titan
target radius (km)   : 2575.15
C/A epoch             : 2047-02-19T12:31:48.950
Event type            : Pgt
: Titan occs: geocentric, topocentric
: 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        : 4069725608837240192
2Mass ID (if available) : 18074223-2222319
ICRS Star Coord at Epoch: 18h 07m 42.22132s -22:22:32.21306s
RUWE (>1.4 is poor) : 1.15
K magnitude           : 10.593
G magnitude           : 18.707
RP magnitude          : 16.918
BP magnitude          : 21.171
DUPflag              : 0
Distance (au)         : 10.525
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 23.22
Sun-Target sep (deg)  : 58.34
Sun-Moon sep (deg)   : 4.95
B (ring opening deg) : 26.28
PA of pole (deg)     : 5.81
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.245
C/A sky separation (km) : 1868.1
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	2047-02-19T12:30:31.613	24.88	-14.03	2575.1	41.59	41.60
Titan	E	2047-02-19T12:33:06.295	25.24	-13.48	2575.1	39.56	39.57

