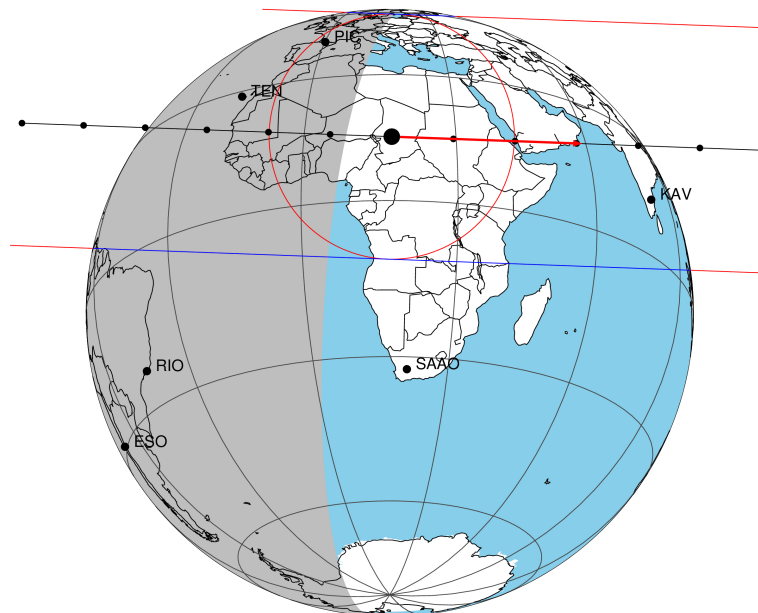


target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2046-02-28T05:46:08.020
 Event type : Pt
 : Titan occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 4114860041466850560
 2Mass ID (if available) : 17242005-2140443

ICRS Star Coord at Epoch: 17h 24m 20.04307s -21:40:44.56381s
 RUWE (>1.4 is poor) : 1.06
 K magnitude : 13.912
 G magnitude : 18.078
 RP magnitude : 16.952
 BP magnitude : 19.476
 DUPflag : 0
 Distance (au) : 10.203
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 21.58
 Sun-Target sep (deg) : 77.44
 Sun-Moon sep (deg) : 8.33
 B (ring opening deg) : 26.52
 PA of pole (deg) : 4.87
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.500
 C/A sky separation (km) : 3698.1
 NAIF SPICE kernels : RAJobs_U111+rgf16.spk

Titan 2046-02-28T05:46:08 K13.91 G18.08 dots 60.0 sec
Pt



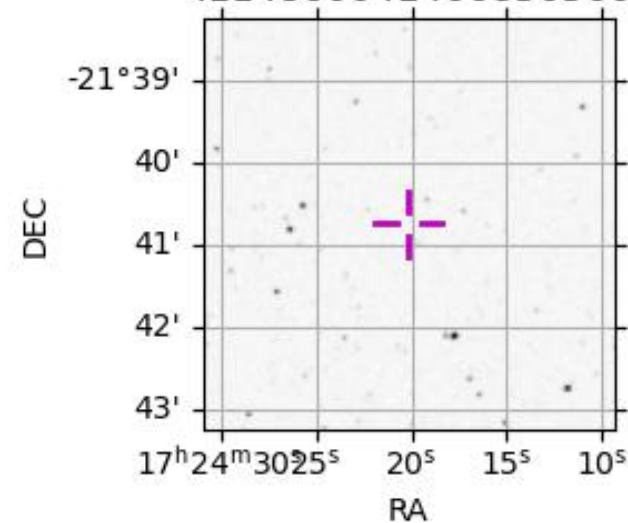
2046-02-28T05:46:08.0200 α: 17 24 20.0431 δ: -21 40 44.564 C/A 0.500" PA 2.10 deg v_sky +21.58 km/s D 10.20 AU
Credit: Styled after SORA/Lucky Star

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	OCode
PIC	Pic du Midi	42.9	0.1	+ +	FEB 28 05:43 - FEB 28 05:46	Pie
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	+ +	FEB 28 05:41 - FEB 28 05:45	Pie
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

4114860041466850560



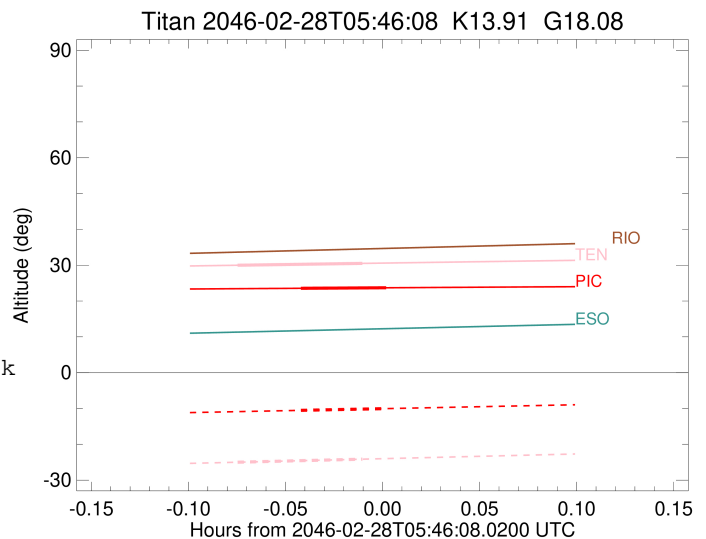
```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2046-02-28T05:44:55.530
Event type           : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code        : PIC
Location             : Pic du Midi
Latitude (deg)       : 42.93656
E. Longitude (deg)  : 0.14231
Altitude (km)        : 2.890
Gaia source ID       : 4114860041466850560
2Mass ID (if available) : 17242005-2140443
ICRS Star Coord at Epoch: 17h 24m 20.04307s -21:40:44.56381s
RUWE (>1.4 is poor) : 1.06
K magnitude          : 13.912
G magnitude          : 18.078
RP magnitude         : 16.952
BP magnitude         : 19.476
DUPflag             : 0
Distance (au)        : 10.203
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 21.58
Sun-Target sep (deg) : 77.44
Sun-Moon sep (deg)  : 8.83
B (ring opening deg) : 26.52
PA of pole (deg)    : 4.87
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.260
C/A sky separation (km) : 1926.9
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	2046-02-28T05:43:35.173	23.55	-10.52	2575.1	44.13	44.14
Titan	E	2046-02-28T05:46:15.900	23.70	-10.03	2575.1	39.90	39.91



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2046-02-28T05:43:35.100
Event type           : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code        : TEN
Location             : Teide Obs./Tenerife
Latitude (deg)       : 28.30050
E. Longitude (deg)   : 343.48909
Altitude (km)        : 2.395
Gaia source ID       : 4114860041466850560
2Mass ID (if available) : 17242005-2140443
ICRS Star Coord at Epoch: 17h 24m 20.04307s -21:40:44.56381s
RUWE (>1.4 is poor) : 1.06
K magnitude           : 13.912
G magnitude           : 18.078
RP magnitude         : 16.952
BP magnitude         : 19.476
DUPflag              : 0
Distance (au)        : 10.203
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 21.58
Sun-Target sep (deg) : 77.44
Sun-Moon sep (deg)   : 8.54
B (ring opening deg) : 26.52
PA of pole (deg)     : 4.87
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.097
C/A sky separation (km) : 714.3
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	2046-02-28T05:41:38.659	29.98	-25.00	2575.1	16.60	16.61
Titan	E	2046-02-28T05:45:31.561	30.50	-24.14	2575.1	12.13	12.14

