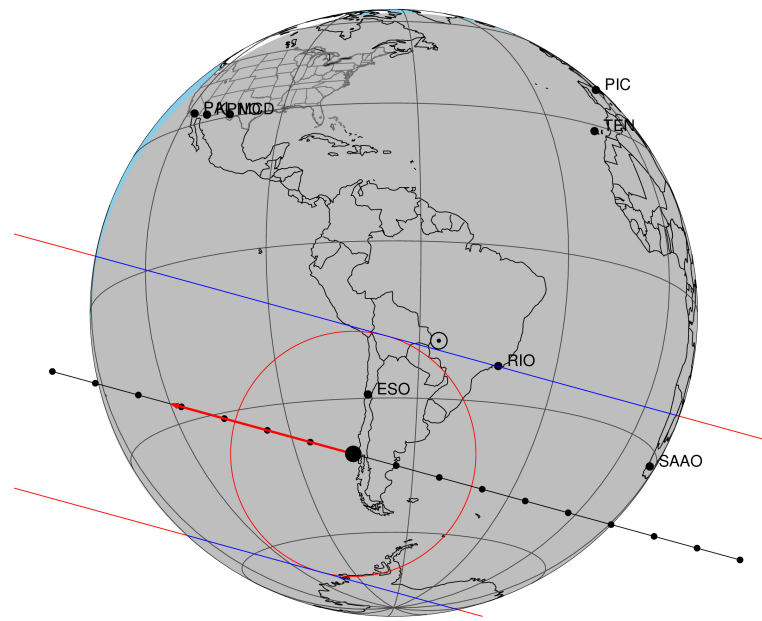


target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2043-05-15T03:40:47.870
 Event type : Pt
 : Titan occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 6311352397345431296
 2Mass ID (if available) : 14490502-1332202

ICRS Star Coord at Epoch: 14h 49m 05.00532s -13:32:20.85082s
 RUWE (>1.4 is poor) : 0.97
 K magnitude : 12.531
 G magnitude : 13.897
 RP magnitude : 13.402
 BP magnitude : 14.232
 DUPflag : 0
 Distance (au) : 8.884
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -15.60
 Sun-Target sep (deg) : 169.95
 Sun-Moon sep (deg) : 88.88
 B (ring opening deg) : 20.10
 PA of pole (deg) : 0.34
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.478
 C/A sky separation (km) : 3082.7
 NAIF SPICE kernels : RAJobs_U111+rgf16.spk
 URKALLv1.spk
 naif0012.tls
 nep097.bsp
 nep101.bsp
 sat4401.bsp

Titan 2043-05-15T03:40:47 K12.53 G13.90 dots 60.0 sec
 Pt



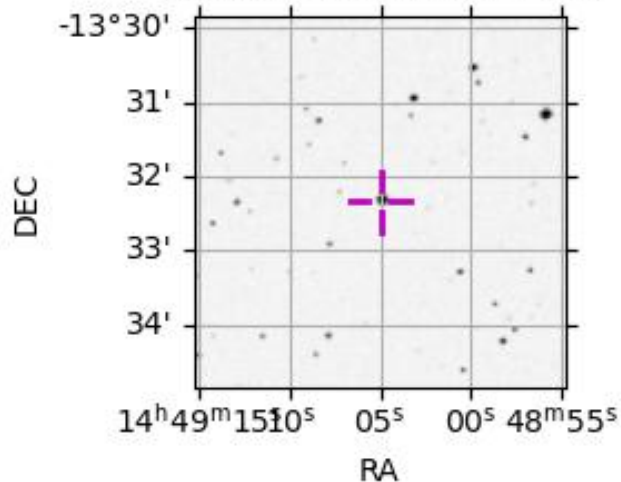
2043-05-15T03:40:47.8700 α: 14 49 05.0053 δ: -13 32 20.851 C/A 0.478" PA 195.34 deg v_sky -15.60 km/s D 08.88 AU

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			Pnn
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+ +	MAY 15 03:38 - MAY 15 03:43	Pie
AAT	Siding Spring (AAT)	-31.3	149.1			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+ +	MAY 15 03:32 - MAY 15 03:36	Pie
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn

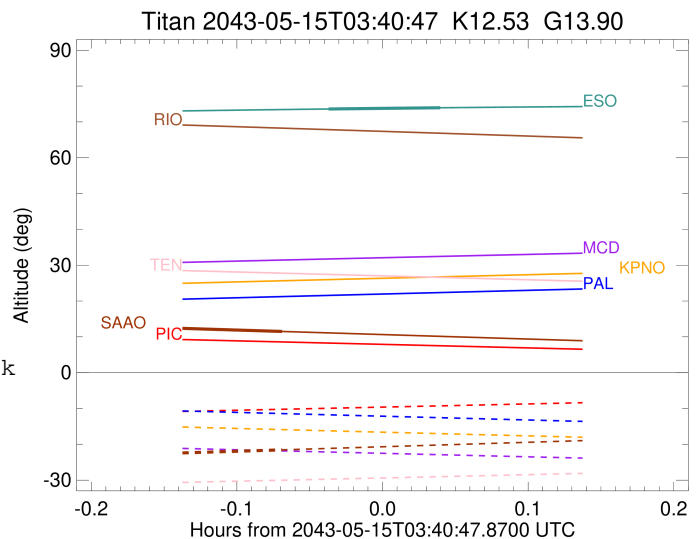
6311352397345431296



target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2043-05-15T03:40:52.360
 Event type : Pt
 : Titan occs: topocentric, not geocentric
 : 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 : 6311352397345431296
 2Mass ID (if available) : 14490502-1332202
 ICRS Star Coord at Epoch: 14h 49m 05.00532s -13:32:20.85082s
 RUWE (>1.4 is poor) : 0.97
 K magnitude : 12.531
 G magnitude : 13.897
 RP magnitude : 13.402
 BP magnitude : 14.232
 DUPflag : 0
 Distance (au) : 8.884
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -15.60
 Sun-Target sep (deg) : 169.95
 Sun-Moon sep (deg) : 89.79
 B (ring opening deg) : 20.10
 PA of pole (deg) : 0.34
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.202
 C/A sky separation (km) : 1303.0
 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	2043-05-15T03:38:33.390	73.59	-72.78	2575.1	41.59	41.60
Titan	E	2043-05-15T03:43:11.304	73.94	-73.61	2575.2	14.83	14.84



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2043-05-15T03:34:22.920
Event type          : Pt
: Titan occs: topocentric, not geocentric
: 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      : 6311352397345431296
2Mass ID (if available) : 14490502-1332202
ICRS Star Coord at Epoch: 14h 49m 05.00532s -13:32:20.85082s
RUWE (>1.4 is poor) : 0.97
K magnitude          : 12.531
G magnitude          : 13.897
RP magnitude         : 13.402
BP magnitude         : 14.232
DUPflag             : 0
Distance (au)       : 8.884
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : -15.60
Sun-Target sep (deg) : 169.95
Sun-Moon sep (deg)  : 89.07
B (ring opening deg) : 20.10
PA of pole (deg)    : 0.34
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (" ) : 0.221
C/A sky separation (km) : 1424.3
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	2043-05-15T03:32:05.868	12.46	-22.50	2575.1	45.02	45.04
Titan	E	2043-05-15T03:36:40.001	11.50	-21.54	2575.2	17.13	17.14

