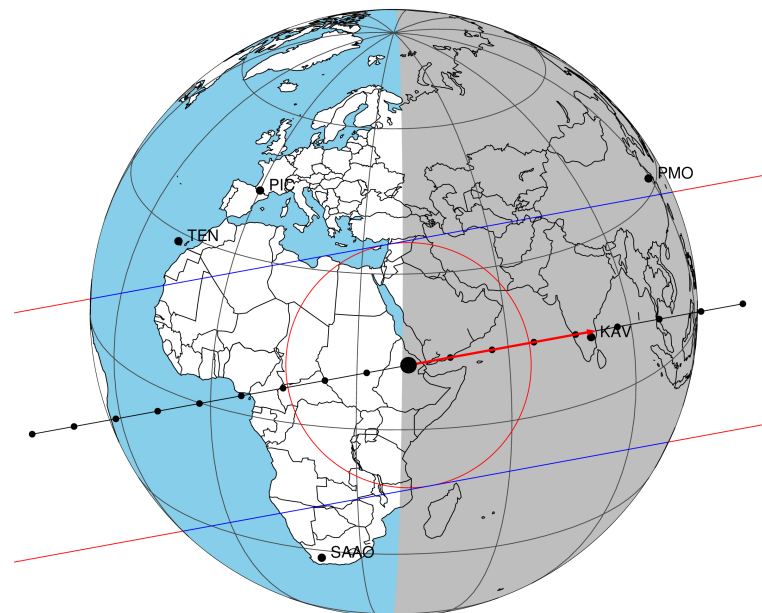


target : Titan  
 target radius (km) : 2575.15  
 C/A epoch : 2033-03-22T15:32:30.810  
 Event type : Pgt  
 : Titan occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 3424481122791697024  
 2Mass ID (if available) : 06004966+2241269

ICRS Star Coord at Epoch: 06h 00m 49.72274s +22:41:27.03196s  
 RUWE (>1.4 is poor) : 1.02  
 K magnitude : 13.988  
 G magnitude : 18.258  
 RP magnitude : 16.375  
 BP magnitude : 18.135  
 DUPflag : 0  
 Distance (au) : 8.997  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 14.87  
 Sun-Target sep (deg) : 88.33  
 Sun-Moon sep (deg) : 164.19  
 B (ring opening deg) : -26.75  
 PA of pole (deg) : -5.69  
 Pole direction: RA (deg): 39.48270  
 Dec (deg): 83.42790  
 C/A sky separation (") : 0.172  
 C/A sky separation (km) : 1125.4  
 NAIF SPICE kernels : RAJobs\_U111+rgf16.spk

Titan 2033-03-22T15:32:30 K13.99 G18.26 dots 60.0 sec  
 Pgt

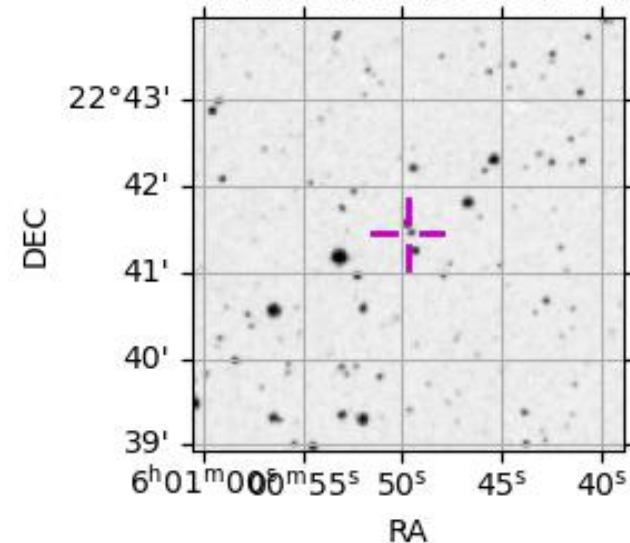


2033-03-22T15:32:30.8100 α: 06 00 49.7227 δ: +22 41 27.032 C/A 0.174" PA 169.58 deg v\_sky +14.87 km/s D 09.00 AU  
 Credit: Styled after SORA/Lucky Star

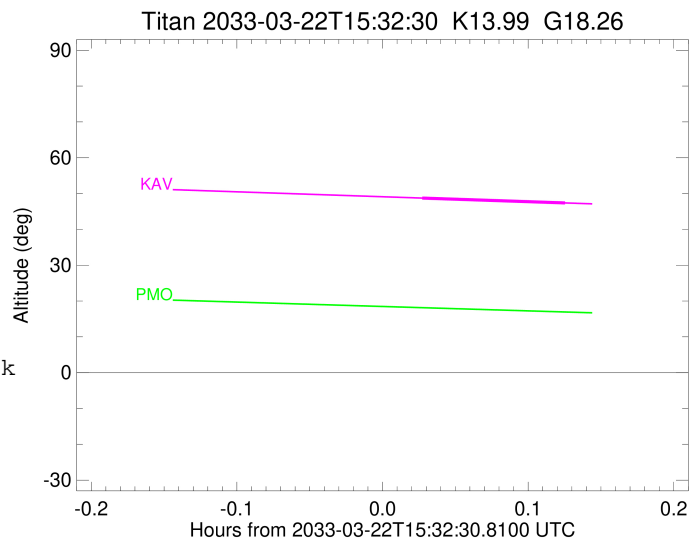
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	MAR 22 15:34 - MAR 22 15:40	Pie
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

3424481122791697024



target : Titan  
 target radius (km) : 2575.15  
 C/A epoch : 2033-03-22T15:37:05.300  
 Event type : Pgt  
 : Titan occs: geocentric, topocentric  
 : Not a ringed target  
 Observer code : KAV  
 Location : Kavalur Observatory  
 Latitude (deg) : 12.57556  
 E. Longitude (deg) : 78.83167  
 Altitude (km) : 0.722  
 Gaia source ID : 3424481122791697024  
 2Mass ID (if available) : 06004966+2241269  
 ICRS Star Coord at Epoch: 06h 00m 49.72274s +22:41:27.03196s  
 RUWE (>1.4 is poor) : 1.02  
 K magnitude : 13.988  
 G magnitude : 18.258  
 RP magnitude : 16.375  
 BP magnitude : 18.135  
 DUPflag : 0  
 Distance (au) : 8.997  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 14.87  
 Sun-Target sep (deg) : 88.33  
 Sun-Moon sep (deg) : 164.93  
 B (ring opening deg) : -26.75  
 PA of pole (deg) : -5.69  
 Pole direction: RA (deg): 39.48270  
 Dec (deg): 83.42790  
 C/A sky separation (") : 0.016  
 C/A sky separation (km) : 105.9  
 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	2033-03-22T15:34:08.099	48.73	-39.27	2575.1	1.92	1.92
Titan	E	2033-03-22T15:40:02.481	47.38	-40.68	2575.1	-6.09	-6.10