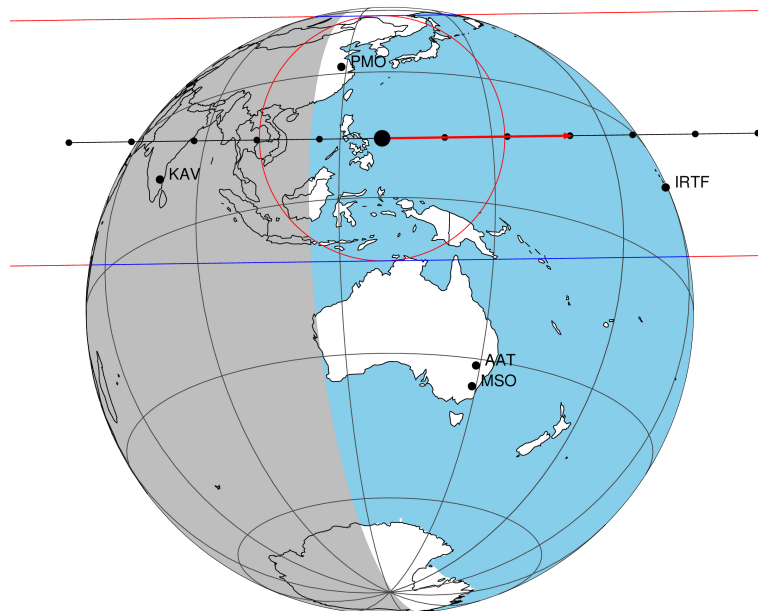


target : Titan
target radius (km) : 2575.15
C/A epoch : 2048-03-20T22:29:44.090
Event type : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Gaia source ID : 4081621500033237120
2Mass ID (if available) : 19020749-2202055

ICRS Star Coord at Epoch: 19h 02m 07.52330s -22:02:07.26408s
RUWE (>1.4 is poor) : 1.06
K magnitude : 13.844
G magnitude : 16.445
RP magnitude : 15.603
BP magnitude : 17.045
DUPflag : 0
Distance (au) : 10.243
f0 (km) : 0.00
g0 (km) : 0.00
skyplane vel. (km/s) : 21.92
Sun-Target sep (deg) : 75.95
Sun-Moon sep (deg) : 147.09
B (ring opening deg) : 24.57
PA of pole (deg) : 6.60
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation (") : 0.489
C/A sky separation (km) : 3636.3
NAIF SPICE kernels : RAJobs_U111+rgf16.spk

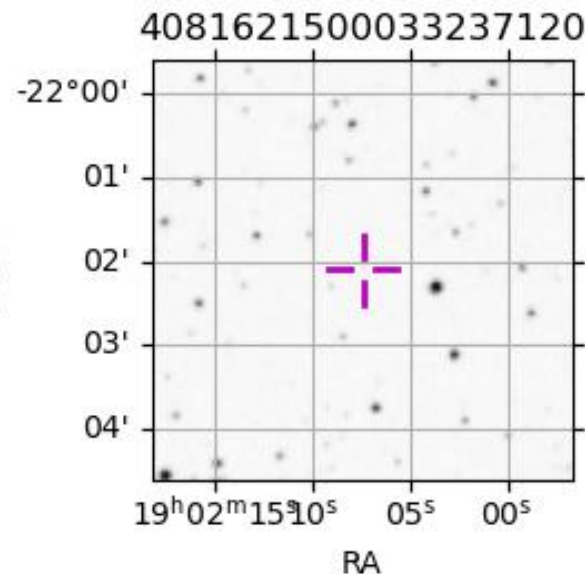
Titan 2048-03-20T22:29:44 K13.84 G16.45 dots 60.0 sec
Pt



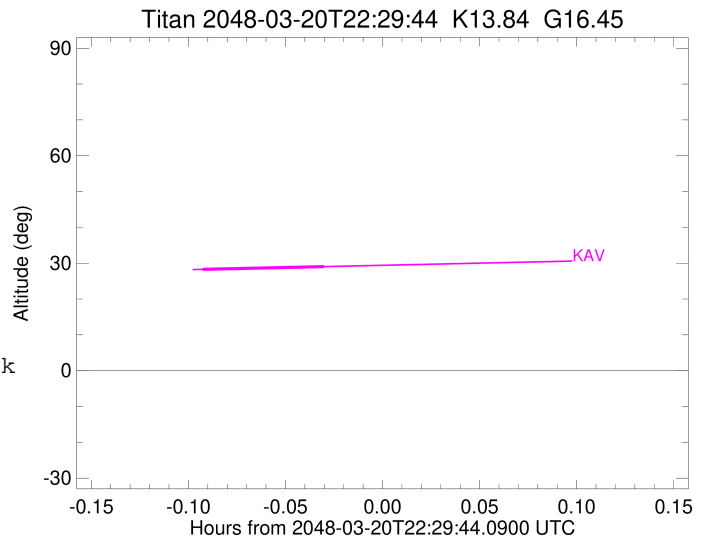
2048-03-20T22:29:44.0900 α: 19 02 07.5233 δ: -22 02 07.264 C/A 0.488" PA 359.21 deg v_sky +21.92 km/s D 10.24 AU
Credit: Styled after SORA/Lucky Star

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			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 20 22:24 - MAR 20 22:27	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



target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2048-03-20T22:26:03.640
 Event type : Pt
 : Titan occs: topocentric, not geocentric
 : 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 : 4081621500033237120
 2Mass ID (if available) : 19020749-2202055
 ICRS Star Coord at Epoch: 19h 02m 07.52330s -22:02:07.26408s
 RUWE (>1.4 is poor) : 1.06
 K magnitude : 13.844
 G magnitude : 16.445
 RP magnitude : 15.603
 BP magnitude : 17.045
 DUPflag : 0
 Distance (au) : 10.243
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 21.92
 Sun-Target sep (deg) : 75.95
 Sun-Moon sep (deg) : 146.83
 B (ring opening deg) : 24.57
 PA of pole (deg) : 6.60
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.111
 C/A sky separation (km) : 823.4
 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	2048-03-20T22:24:10.915	28.28	-35.76	2575.1	-10.52	-10.52
Titan	E	2048-03-20T22:27:56.383	29.04	-34.85	2575.1	-23.24	-23.25