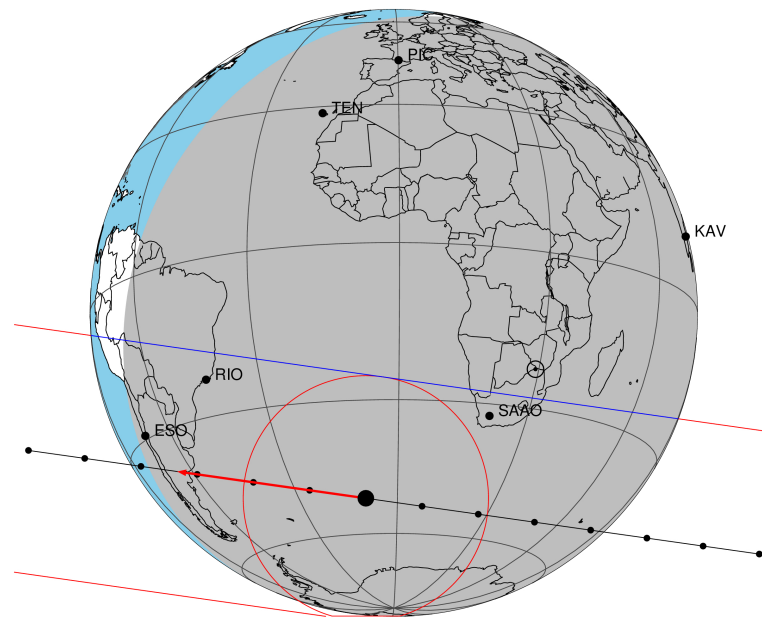


target : Titan
 target radius (km) : 2575.15
 C/A epoch : 2043-06-03T22:01:21.950
 Event type : Pt
 : Titan occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 6311608270021612288
 2Mass ID (if available) : 14434696-1312108

ICRS Star Coord at Epoch: 14h 43m 46.60690s -13:12:15.88789s
 RUWE (>1.4 is poor) : 1.22
 K magnitude : 10.150
 G magnitude : 12.699
 RP magnitude : 11.901
 BP magnitude : 13.383
 DUPflag : 0
 Distance (au) : 8.984
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -19.86
 Sun-Target sep (deg) : 149.87
 Sun-Moon sep (deg) : 160.13
 B (ring opening deg) : 19.77
 PA of pole (deg) : 0.18
 Pole direction: RA (deg): 39.48270
 Dec (deg): 83.42790
 C/A sky separation (") : 0.605
 C/A sky separation (km) : 3943.9
 NAIF SPICE kernels : RAJobs_U111+rgf16.spk

Titan 2043-06-03T22:01:21 K10.15 G12.70 dots 60.0 sec
 Pt



2043-06-03T22:01:21.9500 α: 14 43 46.6069 δ: -13 12 15.888 C/A 0.605" PA 188.07 deg v_sky -19.87 km/s D 08.98 AU

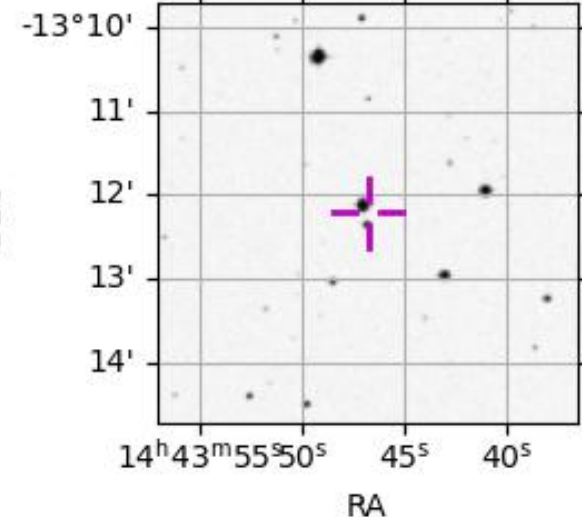
Credit: Styled after SORA/Lucky Star

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			Pnn
RIO	Rio de Janeiro	-22.9	316.8	+ +	JUN 03 22:03 - JUN 03 22:05	Pie
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	+ +	JUN 03 21:58 - JUN 03 22:00	Pie
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn

6311608270021612288



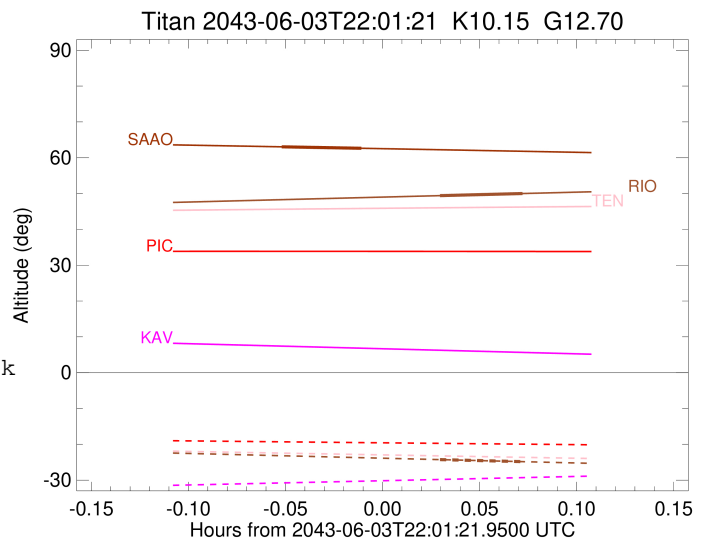
```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2043-06-03T22:04:25.540
Event type           : Pt
: Titan occs: topocentric, not geocentric
: Not a ringed target
Observer code        : RIO
Location             : Rio de Janeiro
Latitude (deg)       : -22.89506
E. Longitude (deg)  : 316.77708
Altitude (km)        : 0.033
Gaia source ID       : 6311608270021612288
2Mass ID (if available) : 14434696-1312108
ICRS Star Coord at Epoch: 14h 43m 46.60690s -13:12:15.88789s
RUWE (>1.4 is poor) : 1.22
K magnitude          : 10.150
G magnitude          : 12.699
RP magnitude         : 11.901
BP magnitude         : 13.383
DUPflag             : 0
Distance (au)        : 8.984
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -19.86
Sun-Target sep (deg) : 149.87
Sun-Moon sep (deg)   : 159.83
B (ring opening deg) : 19.77
PA of pole (deg)     : 0.18
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation ("): 0.314
C/A sky separation (km): 2044.4
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	2043-06-03T22:03:07.947	49.41	-24.27	2575.1	54.70	54.71
Titan	E	2043-06-03T22:05:43.117	50.00	-24.84	2575.1	41.68	41.69



```

target                : Titan
target radius (km)   : 2575.15
C/A epoch            : 2043-06-03T21:59:28.830
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       : 6311608270021612288
2Mass ID (if available) : 14434696-1312108
ICRS Star Coord at Epoch: 14h 43m 46.60690s -13:12:15.88789s
RUWE (>1.4 is poor) : 1.22
K magnitude           : 10.150
G magnitude           : 12.699
RP magnitude          : 11.901
BP magnitude          : 13.383
DUPflag              : 0
Distance (au)         : 8.984
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -19.86
Sun-Target sep (deg) : 149.87
Sun-Moon sep (deg)   : 160.75
B (ring opening deg) : 19.77
PA of pole (deg)     : 0.18
Pole direction: RA (deg): 39.48270
Dec (deg): 83.42790
C/A sky separation ("): 0.321
C/A sky separation (km): 2093.4
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	2043-06-03T21:58:14.717	63.04	-77.25	2575.1	56.37	56.39
Titan	E	2043-06-03T22:00:42.945	62.63	-77.59	2575.1	43.08	43.09

