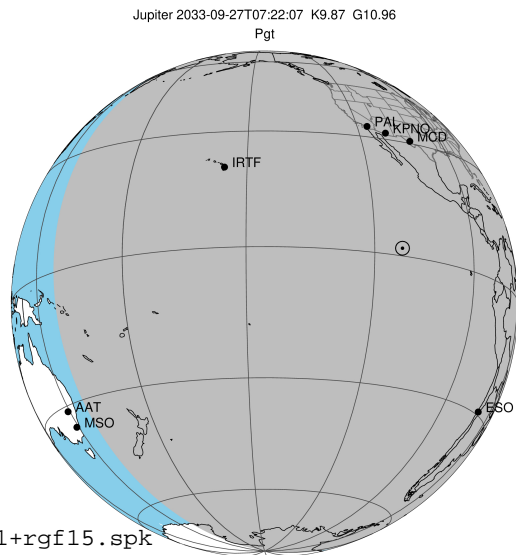


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2033-09-27T07:22:07.530
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 2612457906976593408
 2Mass ID (if available) : 22024999-1319382

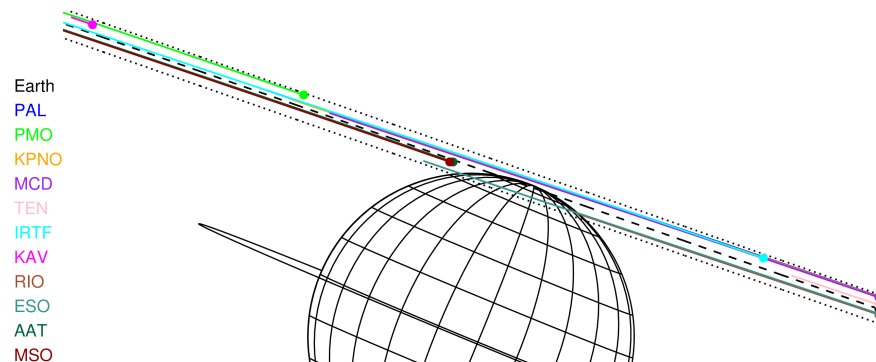
ICRS Star Coord at Epoch: 22h 02m 50.02931s -13:19:38.83074s

RUWE (>1.4 is poor) : 0.82
 K magnitude : 9.866
 G magnitude : 10.957
 RP magnitude : 10.548
 BP magnitude : 11.208
 DUPflag : 0
 Distance (au) : 4.159
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -10.34
 Sun-Target sep (deg) : 144.02
 Sun-Moon sep (deg) : 103.65
 B (ring opening deg) : 0.89
 PA of pole (deg) : -22.49
 Pole direction: RA (deg): 268.05645
 Dec (deg): 64.49665
 C/A sky separation (") : 23.350
 C/A sky separation (km) : 70435.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



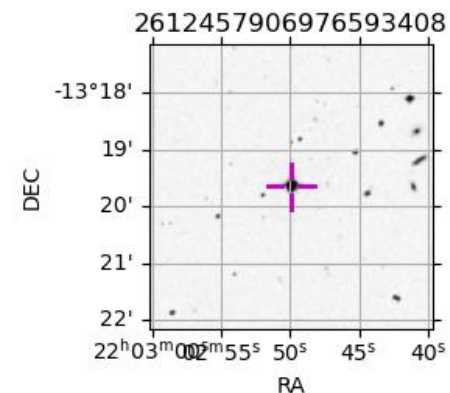
2033-09-27T07:22:07.5300 a: 22 02 50.0293 s -13 19 38.831 C/A ***** PA 160.70 deg v_sky -10.34 km/s D 04.16 AU
 Credit: Styled after SORA/Lucky Star

Jupiter 2033-09-27T07:22:07 K9.87 G10.96 Pgt



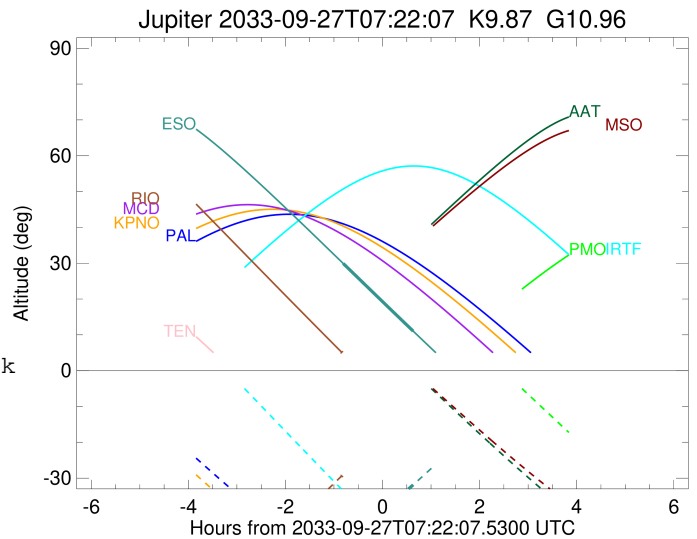
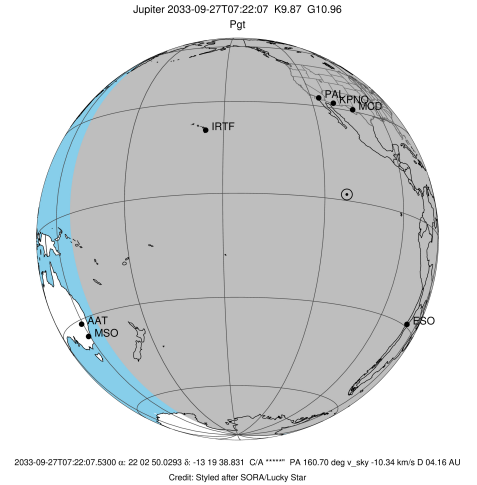
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1			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	+	SEP 27 06:31 - SEP 27 06:31	Pin
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	SEP 27 06:33 - SEP 27 08:00	Pie
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                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2033-09-27T07:15:25.900
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: 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       : 2612457906976593408
2Mass ID (if available) : 22024999-1319382
ICRS Star Coord at Epoch: 22h 02m 50.02931s -13:19:38.83074s
RUWE (>1.4 is poor) : 0.82
K magnitude           : 9.866
G magnitude           : 10.957
RP magnitude         : 10.548
BP magnitude         : 11.208
DUPflag              : 0
Distance (au)        : 4.159
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -10.34
Sun-Target sep (deg) : 144.02
Sun-Moon sep (deg)   : 103.40
B (ring opening deg) : 0.89
PA of pole (deg)     : -22.49
Pole direction: RA (deg): 268.05645
Dec (deg): 64.49665
C/A sky separation ("): 21.886
C/A sky separation (km): 66016.6
NAIF SPICE kernels   : RAJobs_U111+rgf15.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
uranus_ringframes_rfrench20220627_v1.tf
neptune_ringframes_rfrench20220702a_v1.tf
earth_flat_IAU.spk
    
```

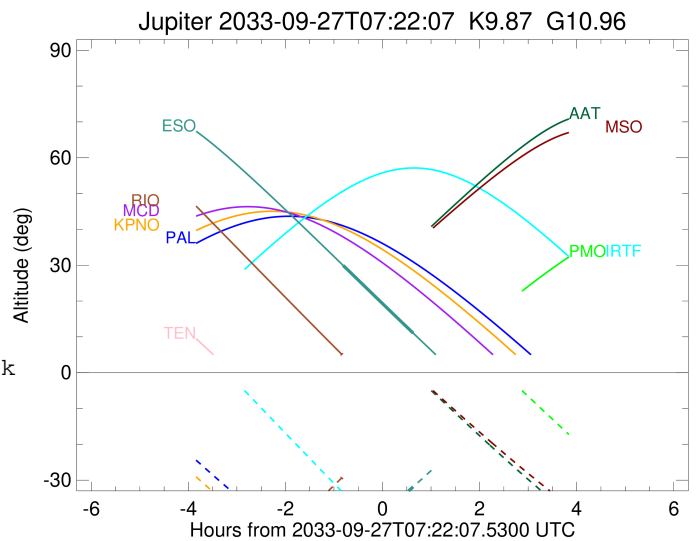
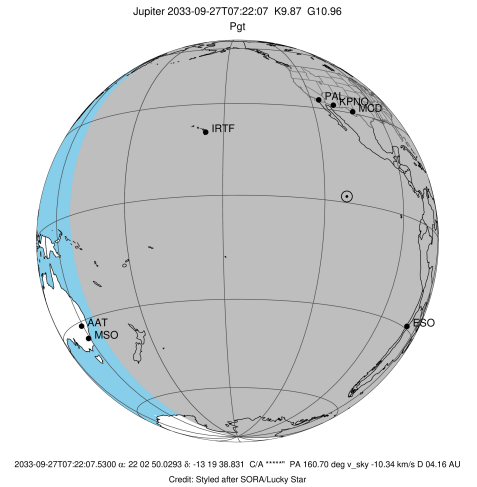


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2033-09-27T06:31:06.190	5.27	-29.50	71491.0	71.03	73.16
Jupiter	E	2033-09-27T08:00:07.241	-14.44x	-9.35	71491.1	63.96	66.72

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2033-09-27T07:16:40.090
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: 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        : 2612457906976593408
2Mass ID (if available) : 22024999-1319382
ICRS Star Coord at Epoch: 22h 02m 50.02931s -13:19:38.83074s
RUWE (>1.4 is poor) : 0.82
K magnitude           : 9.866
G magnitude           : 10.957
RP magnitude          : 10.548
BP magnitude          : 11.208
DUPflag              : 0
Distance (au)         : 4.159
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -10.34
Sun-Target sep (deg)  : 144.02
Sun-Moon sep (deg)    : 103.79
B (ring opening deg) : 0.89
PA of pole (deg)      : -22.49
Pole direction: RA (deg): 268.05645
Dec (deg): 64.49665
C/A sky separation (") : 21.931
C/A sky separation (km) : 66153.3
NAIF SPICE kernels    : RAJobs_U111+rgf15.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
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
Jupiter	I	2033-09-27T06:33:34.891	29.91	-47.89	71491.0	71.60	73.67
Jupiter	E	2033-09-27T08:00:04.327	11.03	-31.85	71491.1	63.90	66.67