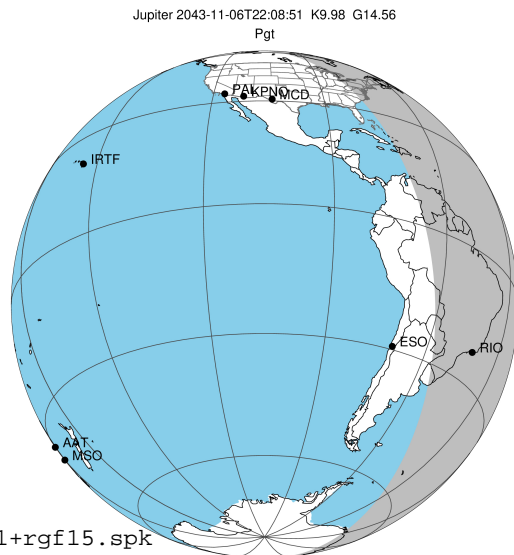


target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-11-06T22:08:51.960  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4066557469211142912  
 2Mass ID (if available) : 18062046-2324210

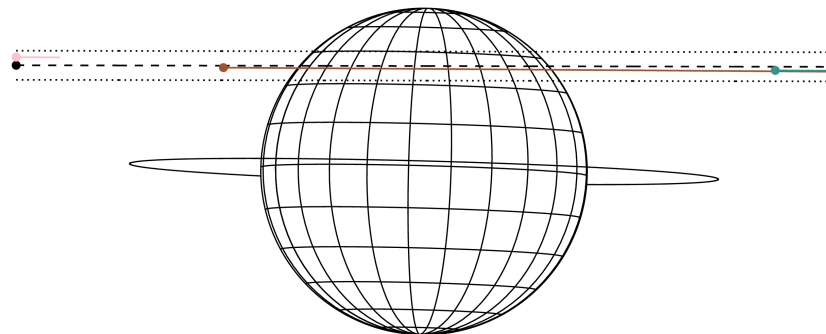
Jupiter 2043-11-06T22:08:51 K9.98 G14.56 Pgt

ICRS Star Coord at Epoch: 18h 06m 20.45208s -23:24:21.50652s  
 RUWE (>1.4 is poor) : 0.98  
 K magnitude : 9.980  
 G magnitude : 14.560  
 RP magnitude : 13.937  
 BP magnitude : 15.011  
 DUPflag : 0  
 Distance (au) : 5.833  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 33.35  
 Sun-Target sep (deg) : 47.68  
 Sun-Moon sep (deg) : 9.22  
 B (ring opening deg) : -2.05  
 PA of pole (deg) : -1.52  
 Pole direction: RA (deg): 268.05676  
 Dec (deg): 64.49731  
 C/A sky separation (") : 10.920  
 C/A sky separation (km) : 46195.7  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk



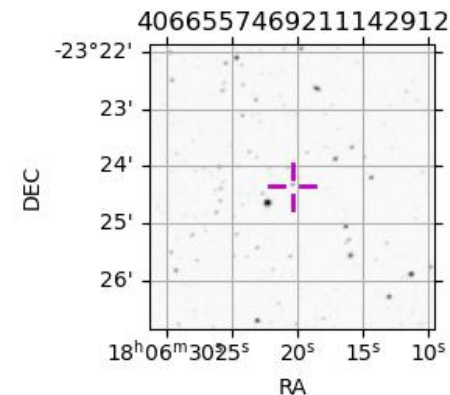
2043-11-06T22:08:51.9600 @: 18 06 20.4521 @: -23 24 21.507 C/A \*\*\*\*\* PA 179.89 deg v\_sky +33.35 km/s D 05.83 AU  
 Credit: Styled after SORA/Lucky Star

Earth  
 TEN  
 RIO  
 ESO



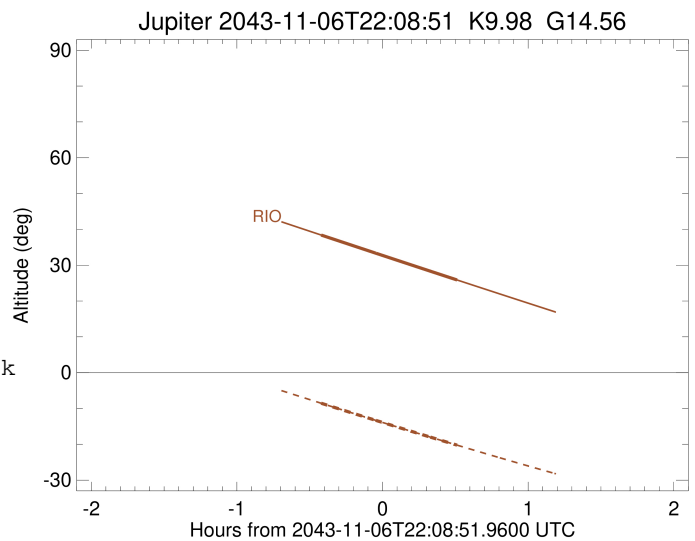
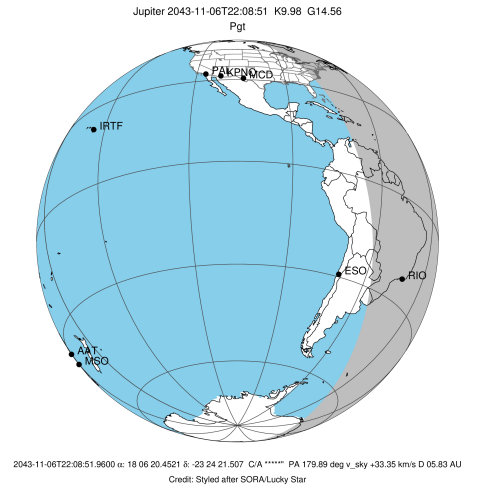
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	NOV 06 21:43 - NOV 06 22:39	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			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-11-06T22:11:35.660
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        : 4066557469211142912
2Mass ID (if available) : 18062046-2324210
ICRS Star Coord at Epoch: 18h 06m 20.45208s -23:24:21.50652s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 9.980
G magnitude           : 14.560
RP magnitude          : 13.937
BP magnitude          : 15.011
DUPflag              : 0
Distance (au)         : 5.833
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 33.35
Sun-Target sep (deg) : 47.68
Sun-Moon sep (deg)   : 8.59
B (ring opening deg) : -2.05
PA of pole (deg)     : -1.52
Pole direction: RA (deg): 268.05676
Dec (deg): 64.49731
C/A sky separation (") : 10.623
C/A sky separation (km) : 44941.4
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	2043-11-06T21:43:37.429	38.41	-8.54	71489.8	37.77	41.44
Jupiter	E	2043-11-06T22:39:31.109	25.89	-20.22	71489.6	40.05	43.76