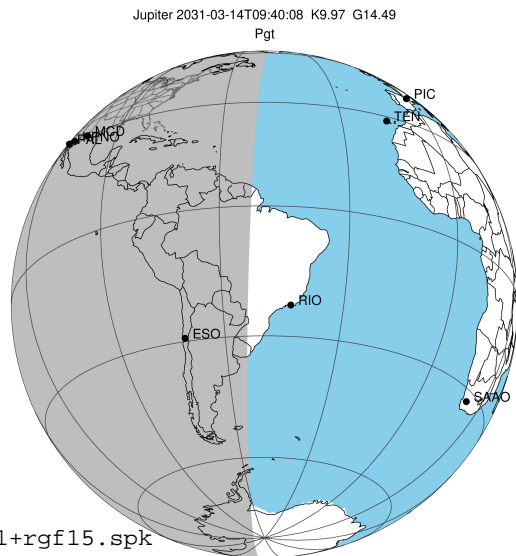


target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2031-03-14T09:40:08.030  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4068936670600875776  
 2Mass ID (if available) : 17465377-2251369

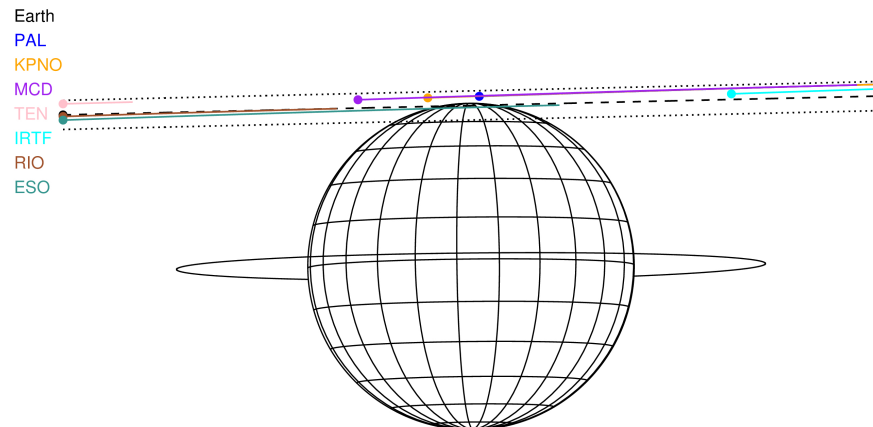
Jupiter 2031-03-14T09:40:08 K9.97 G14.49 Pgt

ICRS Star Coord at Epoch: 17h 46m 53.76986s -22:51:37.30355s

RUWE (>1.4 is poor) : 0.93  
 K magnitude : 9.970  
 G magnitude : 14.490  
 RP magnitude : 13.329  
 BP magnitude : 15.956  
 DUPflag : 0  
 Distance (au) : 5.284  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 15.13  
 Sun-Target sep (deg) : 86.20  
 Sun-Moon sep (deg) : 28.20  
 B (ring opening deg) : -2.64  
 PA of pole (deg) : 0.57  
 Pole direction: RA (deg): 268.05700  
 Dec (deg): 64.49651  
 C/A sky separation (") : 18.401  
 C/A sky separation (km) : 70515.8  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk

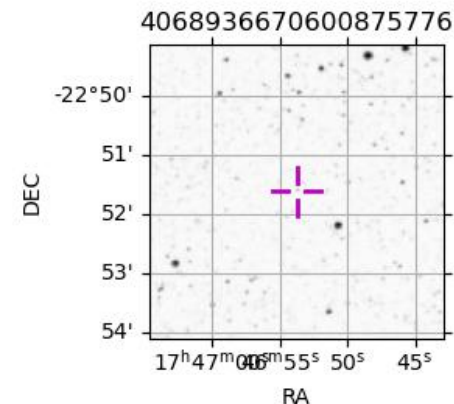


2031-03-14T09:40:08.0300 a: 17 46 53.76986 s: -22 51 37.304 C/A \*\*\*\*\* PA 181.32 deg v\_sky +15.13 km/s D 05.28 AU  
 Credit: Styled after SORA/Lucky Star



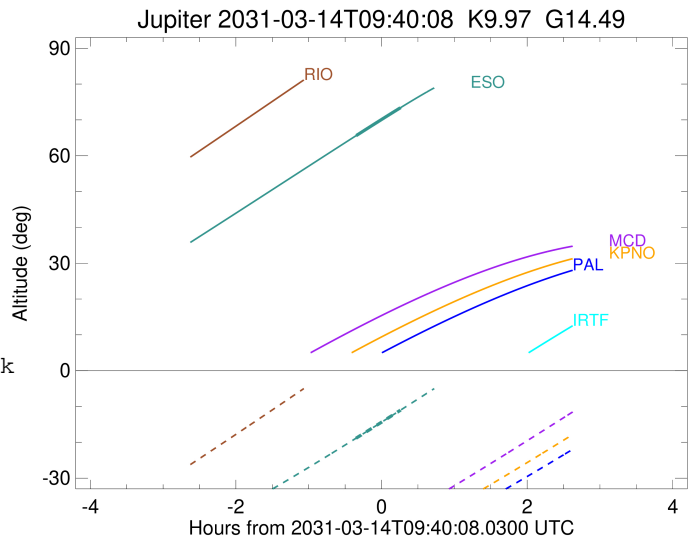
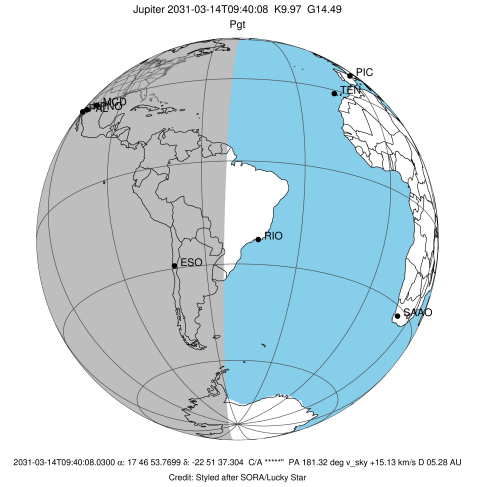
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	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			Pnn
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+ +	MAR 14 09:19 - MAR 14 09:55	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             : 2031-03-14T09:37:32.280
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        : 4068936670600875776
2Mass ID (if available) : 17465377-2251369
ICRS Star Coord at Epoch: 17h 46m 53.76986s -22:51:37.30355s
RUWE (>1.4 is poor) : 0.93
K magnitude           : 9.970
G magnitude           : 14.490
RP magnitude          : 13.329
BP magnitude          : 15.956
DUPflag              : 0
Distance (au)         : 5.284
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 15.13
Sun-Target sep (deg)  : 86.20
Sun-Moon sep (deg)    : 28.37
B (ring opening deg) : -2.64
PA of pole (deg)      : 0.57
Pole direction: RA (deg): 268.05700
Dec (deg): 64.49651
C/A sky separation (") : 18.170
C/A sky separation (km) : 69630.5
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	2031-03-14T09:19:15.092	65.61	-18.83	71483.1	75.66	77.31
Jupiter	E	2031-03-14T09:55:50.868	73.41	-11.01	71483.0	77.63	79.06