

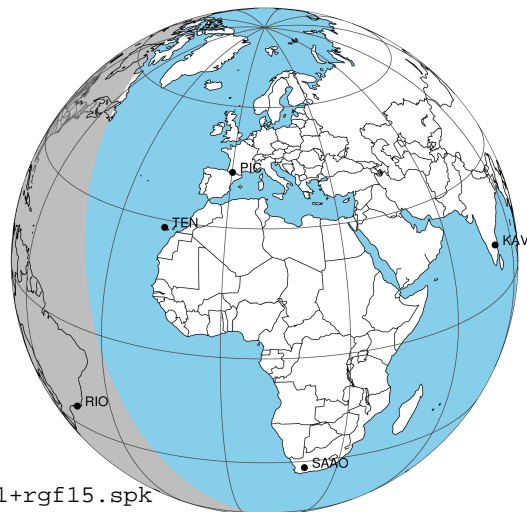
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2048-07-29T08:13:29.840
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3414768694203452416
 2Mass ID (if available) : 05214304+2236398

Jupiter 2048-07-29T08:13:29 K9.73 G13.72 Pgt

ICRS Star Coord at Epoch: 05h 21m 43.04506s +22:36:39.83784s

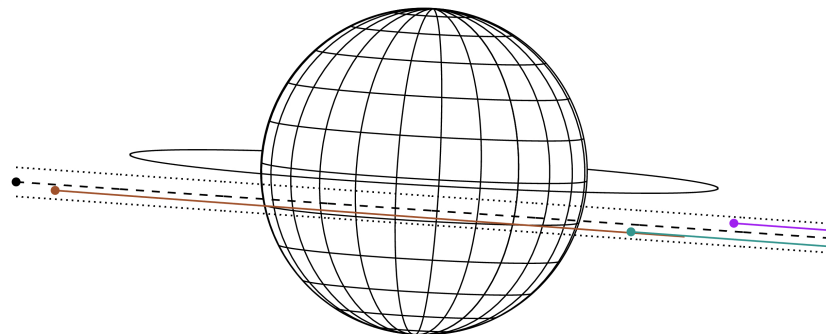
RUWE (>1.4 is poor) : 1.07
 K magnitude : 9.730
 G magnitude : 13.722
 RP magnitude : 12.609
 BP magnitude : 15.025
 DUPflag : 0
 Distance (au) : 5.726
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 33.79
 Sun-Target sep (deg) : 45.05
 Sun-Moon sep (deg) : 83.21
 B (ring opening deg) : 2.69
 PA of pole (deg) : -3.28
 Pole direction: RA (deg): 268.05732
 Dec (deg): 64.49722
 C/A sky separation (") : 4.064
 C/A sky separation (km) : 16876.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2048-07-29T08:13:29 K9.73 G13.72
 Pgt



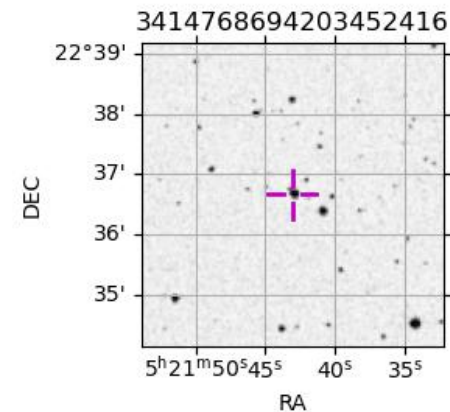
2048-07-29T08:13:29.8400 cc: 05 21 43.0451 s: +22 36 39.838 C/A 4.055" PA 356.04 deg v_sky +33.79 km/s D 05.73 AU
 Credit: Styled after SORA/Lucky Star

Earth
 MCD
 RIO
 ESO



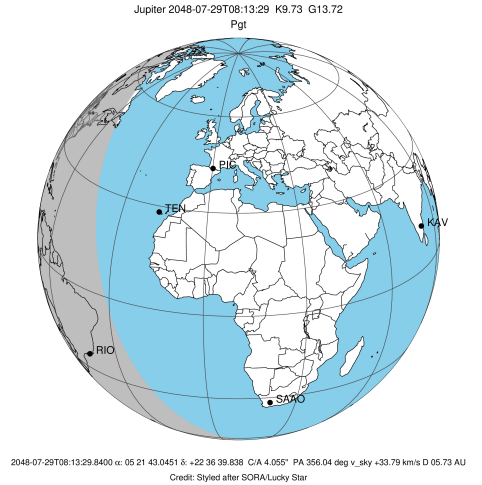
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	JUL 29 07:36 - JUL 29 08:45	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

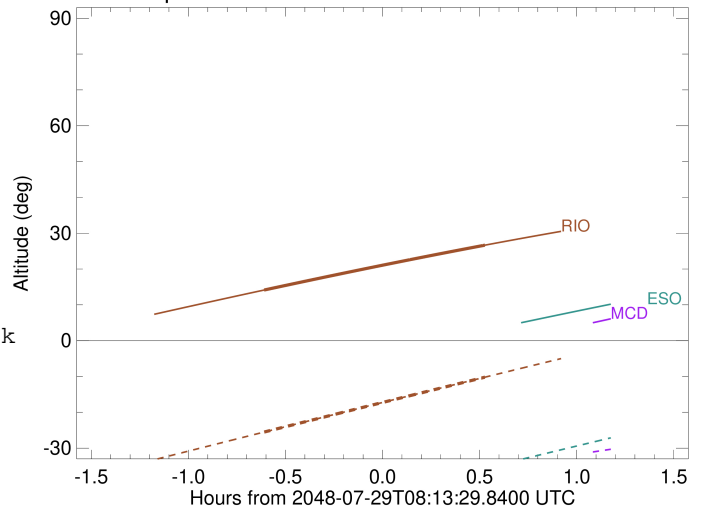


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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2048-07-29T08:10:59.990
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : RIO
Location             : Rio de Janeiro
Latitude (deg)       : -22.89506
E. Longitude (deg)   : 316.77708
Altitude (km)        : 0.033
Gaia source ID       : 3414768694203452416
2Mass ID (if available) : 05214304+2236398
ICRS Star Coord at Epoch: 05h 21m 43.04506s +22:36:39.83784s
RUWE (>1.4 is poor) : 1.07
K magnitude          : 9.730
G magnitude          : 13.722
RP magnitude         : 12.609
BP magnitude         : 15.025
DUPflag             : 0
Distance (au)        : 5.726
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 33.79
Sun-Target sep (deg) : 45.05
Sun-Moon sep (deg)   : 83.48
B (ring opening deg) : 2.69
PA of pole (deg)     : -3.28
Pole direction: RA (deg): 268.05732
Dec (deg): 64.49722
C/A sky separation (") : 4.858
C/A sky separation (km) : 20174.2
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
    
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Jupiter 2048-07-29T08:13:29 K9.73 G13.72



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	2048-07-29T07:36:57.227	14.14	-25.50	71491.3	-15.44	-17.51
Jupiter	E	2048-07-29T08:45:06.463	26.65	-10.20	71491.1	-17.29	-19.58