

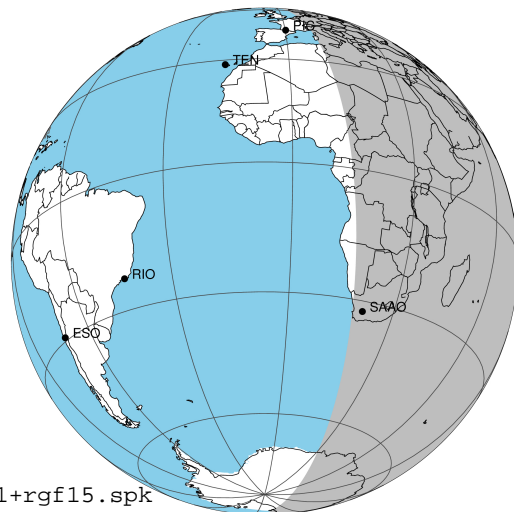
target : Jupiter
target radius (km) : 71492.00
C/A epoch : 2031-10-07T16:50:58.510
Event type : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Gaia source ID : 4111488702659692928
2Mass ID (if available) : 17281285-2304131

Jupiter 2031-10-07T16:50:58 K9.26 G14.59 Pgt

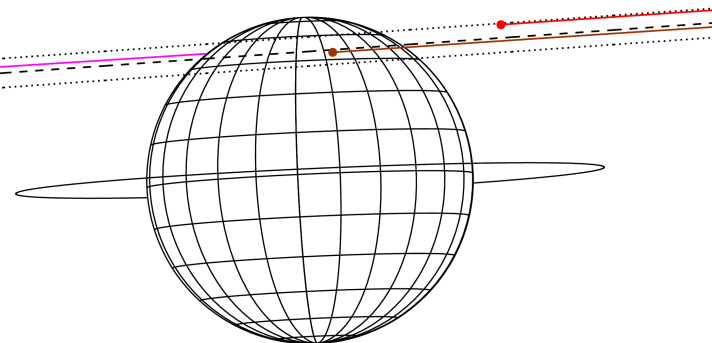
ICRS Star Coord at Epoch: 17h 28m 12.84763s -23°04'13.31849s

RUWE (>1.4 is poor) : 0.97
K magnitude : 9.260
G magnitude : 14.590
RP magnitude : 13.290
BP magnitude : 16.560
DUPflag : 0
Distance (au) : 5.517
f0 (km) : 0.00
g0 (km) : 0.00
skyplane vel. (km/s) : 23.81
Sun-Target sep (deg) : 68.91
Sun-Moon sep (deg) : 166.60
B (ring opening deg) : -2.31
PA of pole (deg) : 2.58
Pole direction: RA (deg): 268.05682
Dec (deg): 64.49652
C/A sky separation (") : 14.101
C/A sky separation (km) : 56419.8
NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2031-10-07T16:50:58 K9.26 G14.59
Pgt



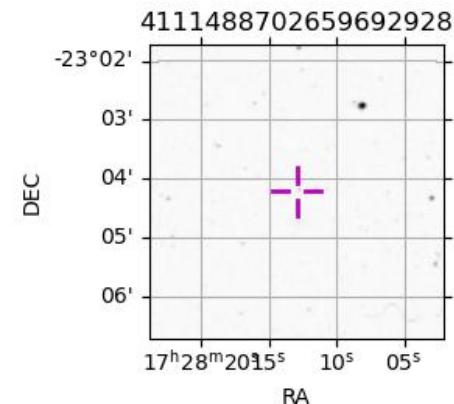
Earth
PIC
KAV
SAAO



2031-10-07T16:50:58.5100 a: 17 28 12.8476 s: -23 04 13.3184 C/A ***** PA 184.03 deg v_sky +23.81 km/s D 05.52 AU
Credit: Styled after SORA/Lucky Star

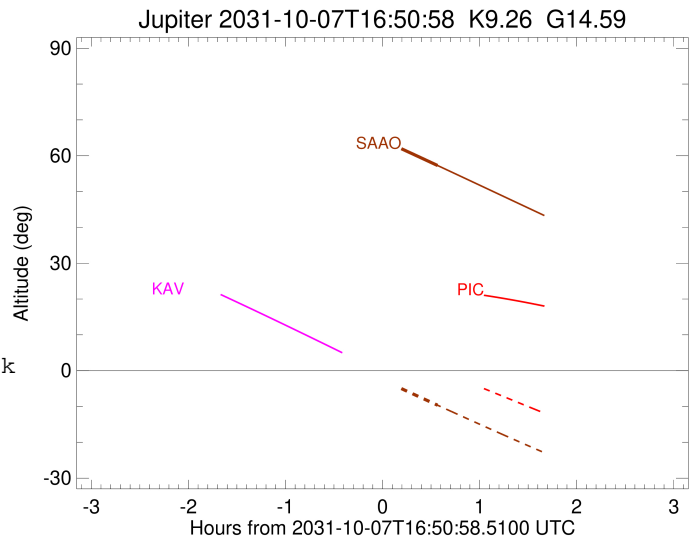
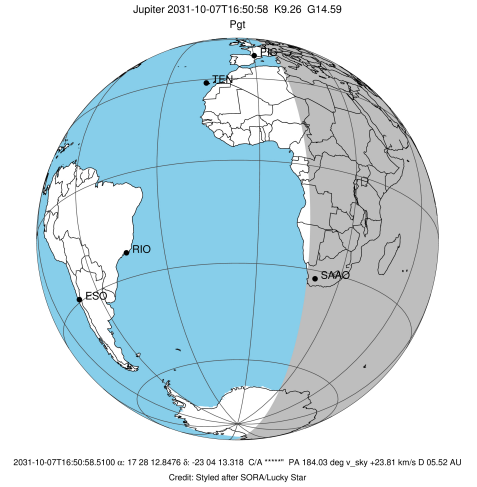
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEncode
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
TENO	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			Pnn
AAT	Siding Spring (AAT)	-31.3	149.1			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+	OCT 07 17:25 - OCT 07 17:25	Pne
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-10-07T16:52:51.590
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: 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       : 4111488702659692928
2Mass ID (if available) : 17281285-2304131
ICRS Star Coord at Epoch: 17h 28m 12.84763s -23:04:13.31849s
RUWE (>1.4 is poor) : 0.97
K magnitude          : 9.260
G magnitude          : 14.590
RP magnitude         : 13.290
BP magnitude         : 16.560
DUPflag             : 0
Distance (au)        : 5.517
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 23.81
Sun-Target sep (deg) : 68.91
Sun-Moon sep (deg)   : 166.50
B (ring opening deg) : -2.31
PA of pole (deg)     : 2.58
Pole direction: RA (deg): 268.05682
Dec (deg): 64.49652
C/A sky separation ("): 13.831
C/A sky separation (km): 55339.4
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	2031-10-07T16:20:40.352	70.46	3.80x	71487.8	49.31	52.92
Jupiter	E	2031-10-07T17:24:59.890	57.27	-9.64	71487.5	51.97	55.48