

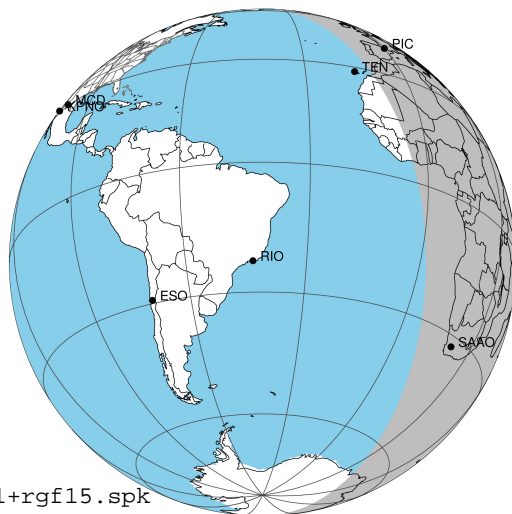
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-10-30T17:54:35.740
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068806344103356544
 2Mass ID (if available) : 17444343-2316318

Jupiter 2031-10-30T17:54:35 K9.22 G14.41 Pgt

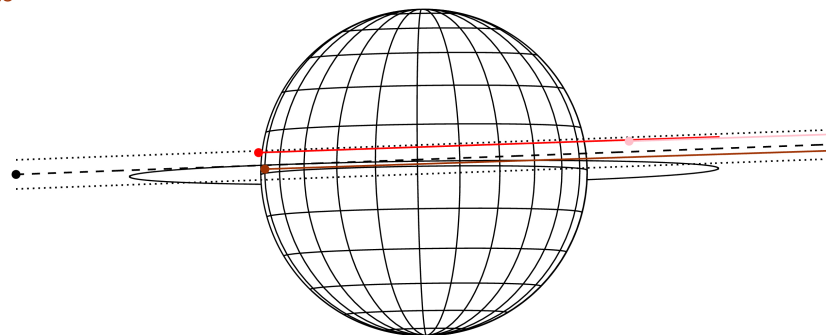
ICRS Star Coord at Epoch: 17h 44m 43.45007s -23:16:32.07779s

RUWE (>1.4 is poor) : 0.98
 K magnitude : 9.216
 G magnitude : 14.408
 RP magnitude : 13.065
 BP magnitude : 16.452
 DUPflag : 0
 Distance (au) : 5.818
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 32.43
 Sun-Target sep (deg) : 49.83
 Sun-Moon sep (deg) : 135.39
 B (ring opening deg) : -2.22
 PA of pole (deg) : 0.81
 Pole direction: RA (deg): 268.05681
 Dec (deg): 64.49652
 C/A sky separation (") : 1.362
 C/A sky separation (km) : 5745.8
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2031-10-30T17:54:35 K9.22 G14.41
 Pgt



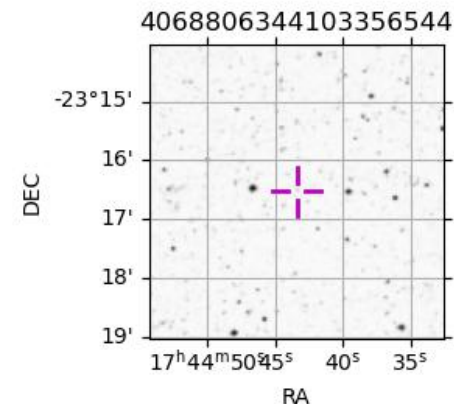
Earth
 PIC
 TEN
 SAO



2031-10-30T17:54:35.74000000: 17 44 43.45007 s: -23 16 32.07779 s: C/A 1.362" PA 182.11 deg v_sky +32.43 km/s D 05.82 AU
 Credit: Styled after SORA/Lucky Star

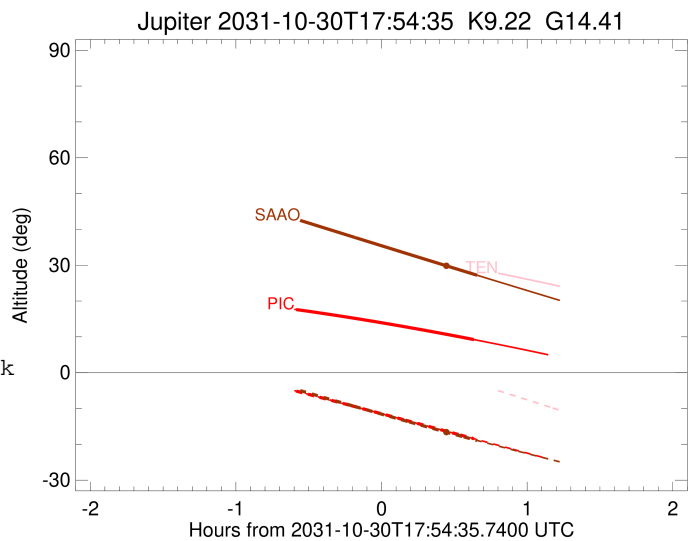
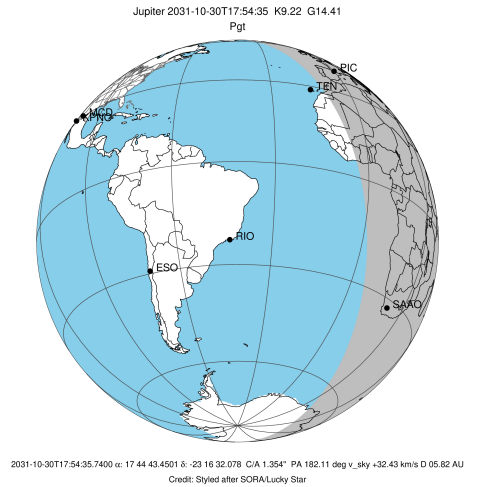
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEncode
PIC	Pic du Midi	42.9	0.1	+ +	OCT 30 17:19 - OCT 30 18:32	Pie
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			Pnn
AAT	Siding Spring (AAT)	-31.3	149.1			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+	OCT 30 18:33 - OCT 30 18:33	Pne
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-10-30T17:56:06.350
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : PIC
Location            : Pic du Midi
Latitude (deg)      : 42.93656
E. Longitude (deg)  : 0.14231
Altitude (km)       : 2.890
Gaia source ID      : 4068806344103356544
2Mass ID (if available) : 17444343-2316318
ICRS Star Coord at Epoch: 17h 44m 43.45007s -23:16:32.07779s
RUWE (>1.4 is poor) : 0.98
K magnitude          : 9.216
G magnitude          : 14.408
RP magnitude         : 13.065
BP magnitude         : 16.452
DUPflag             : 0
Distance (au)       : 5.818
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 32.43
Sun-Target sep (deg) : 49.83
Sun-Moon sep (deg)  : 135.86
B (ring opening deg) : -2.22
PA of pole (deg)    : 0.81
Pole direction: RA (deg): 268.05681
Dec (deg): 64.49652
C/A sky separation (") : 2.656
C/A sky separation (km) : 11206.6
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
    
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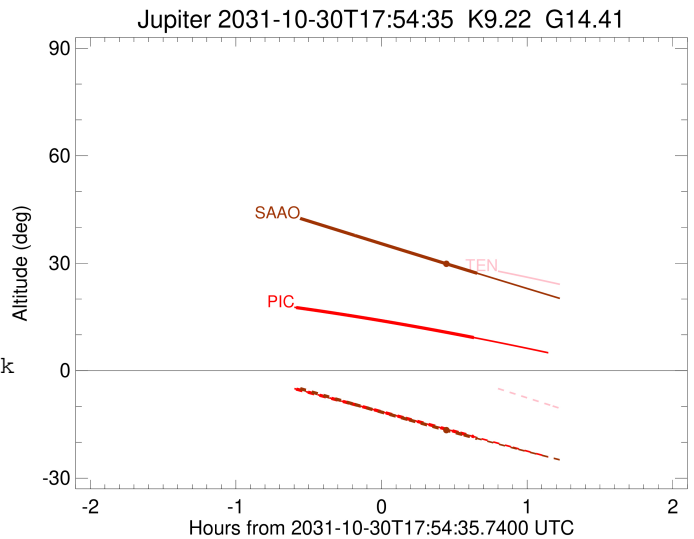
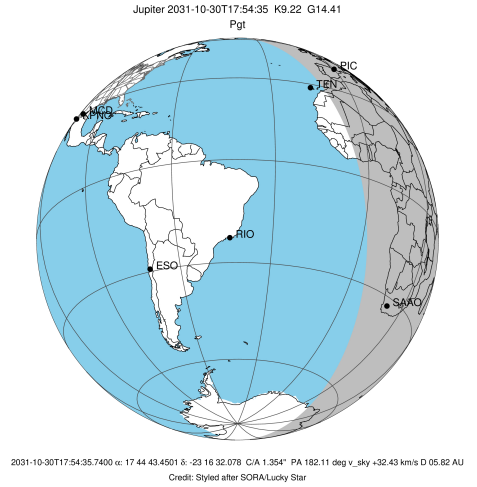


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-10-30T17:19:30.297	17.61	-5.14	71491.9	7.84	8.94
Jupiter	E	2031-10-30T18:32:39.299	9.24	-18.43	71491.8	10.15	11.57

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-10-30T17:57:05.520
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       : 4068806344103356544
2Mass ID (if available) : 17444343-2316318
ICRS Star Coord at Epoch: 17h 44m 43.45007s -23:16:32.07779s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 9.216
G magnitude           : 14.408
RP magnitude         : 13.065
BP magnitude         : 16.452
DUPflag              : 0
Distance (au)        : 5.818
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 32.43
Sun-Target sep (deg) : 49.83
Sun-Moon sep (deg)   : 136.27
B (ring opening deg) : -2.22
PA of pole (deg)     : 0.81
Pole direction: RA (deg): 268.05681
Dec (deg): 64.49652
C/A sky separation (") : 0.895
C/A sky separation (km) : 3778.2
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
    
```



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	2031-10-30T17:20:09.391	42.70	-4.82x	71492.0	1.94	2.22
Jupiter	E	2031-10-30T18:33:57.129	27.20	-18.91	71492.0	4.08	4.67