

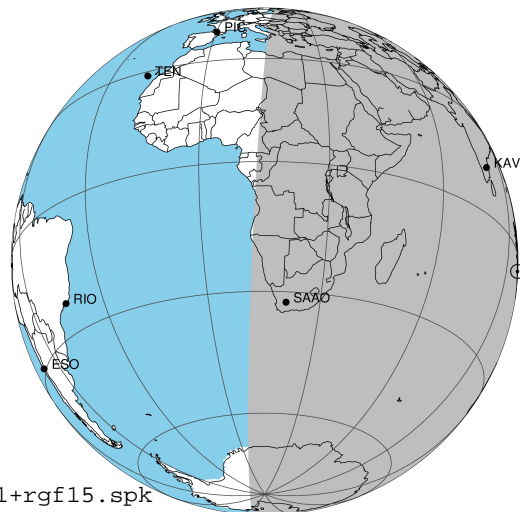
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-09-14T17:02:17.510
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116681970991551232
 2Mass ID (if available) : 17341750-2310585

Jupiter 2043-09-14T17:02:17 K9.70 G14.65 Pgt

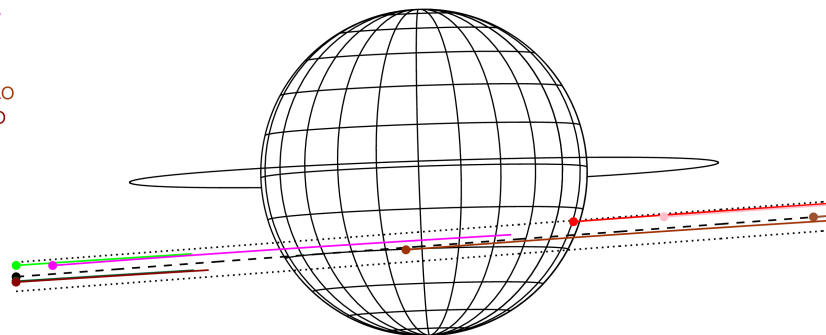
ICRS Star Coord at Epoch: 17h 34m 17.49133s -23:10:59.08920s

RUWE (>1.4 is poor) : 0.93
 K magnitude : 9.700
 G magnitude : 14.648
 RP magnitude : 13.384
 BP magnitude : 16.418
 DUPflag : 0
 Distance (au) : 5.088
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 11.57
 Sun-Target sep (deg) : 92.91
 Sun-Moon sep (deg) : 33.09
 B (ring opening deg) : -2.25
 PA of pole (deg) : 1.93
 Pole direction: RA (deg): 268.05673
 Dec (deg): 64.49731
 C/A sky separation (") : 8.727
 C/A sky separation (km) : 32202.2
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-09-14T17:02:17 K9.70 G14.65
 Pgt



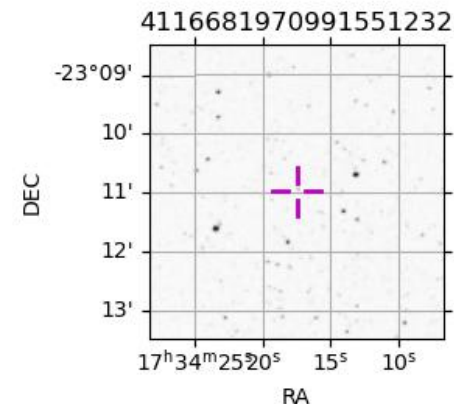
Earth
 PIC
 PMO
 TEN
 KAV
 RIO
 AAT
 SAAO
 MSO



2043-09-14T17:02:17.5100 a: 17 34 17.4913 s: -23 10 59.089 C/A 8.736" PA 4.28 deg v_sky +11.57 km/s D 05.09 AU
 Credit: Styled after SORA/Lucky Star

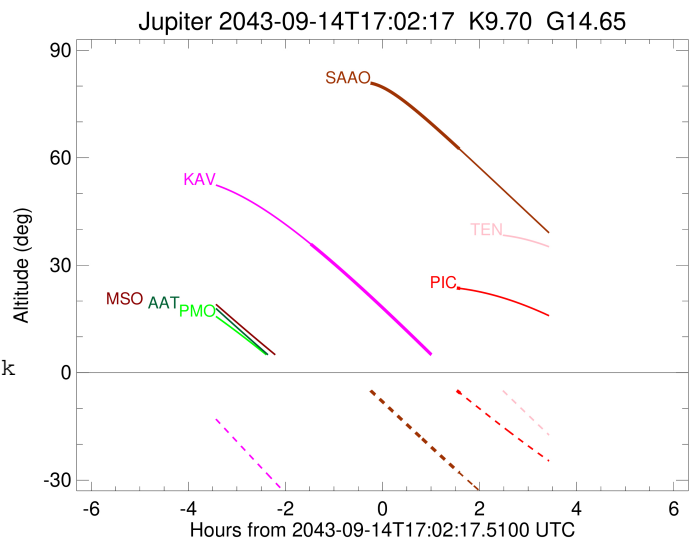
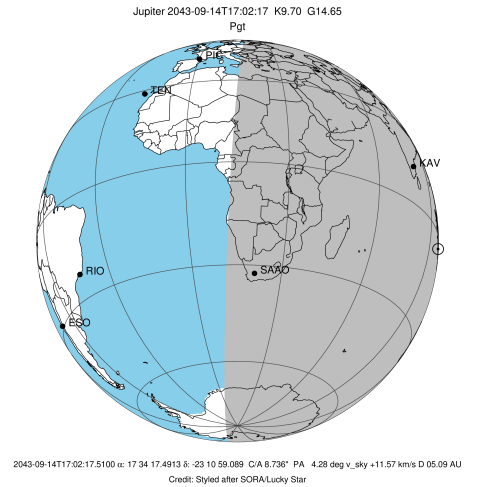
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1	+	SEP 14 18:38 - SEP 14 18:38	Pne
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	+	SEP 14 15:33 - SEP 14 15:33	Pin
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	+	SEP 14 18:37 - SEP 14 18:37	Pne
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-14T17:00:07.090
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     : 4116681970991551232
2Mass ID (if available) : 17341750-2310585
ICRS Star Coord at Epoch: 17h 34m 17.49133s -23:10:59.08920s
RUWE (>1.4 is poor) : 0.93
K magnitude        : 9.700
G magnitude        : 14.648
RP magnitude       : 13.384
BP magnitude       : 16.418
DUPflag           : 0
Distance (au)     : 5.088
f0 (km)           : 0.00
g0 (km)           : 0.00
skyplane vel. (km/s) : 11.57
Sun-Target sep (deg) : 92.91
Sun-Moon sep (deg) : 33.57
B (ring opening deg) : -2.25
PA of pole (deg)  : 1.93
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 7.196
C/A sky separation (km) : 26552.6
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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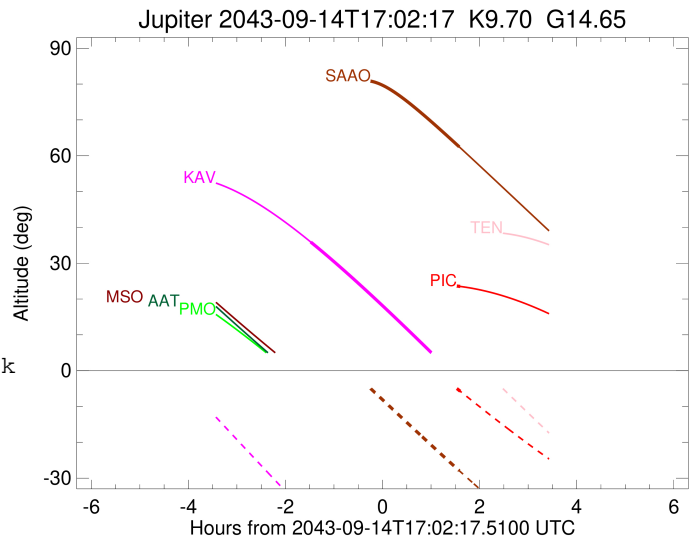
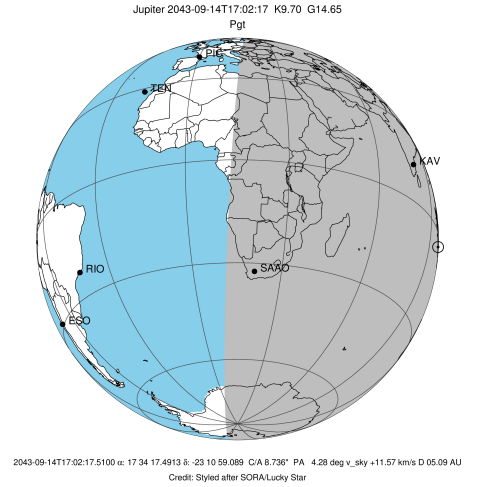


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-14T15:21:57.516	14.42	29.51x	71490.8	-24.56	-27.55
Jupiter	E	2043-09-14T18:38:20.444	23.51	-5.74	71491.2	-19.28	-21.78

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-14T17:09:38.950
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : KAV
Location             : Kavalur Observatory
Latitude (deg)       : 12.57556
E. Longitude (deg)   : 78.83167
Altitude (km)        : 0.722
Gaia source ID       : 4116681970991551232
2Mass ID (if available) : 17341750-2310585
ICRS Star Coord at Epoch: 17h 34m 17.49133s -23:10:59.08920s
RUWE (>1.4 is poor) : 0.93
K magnitude          : 9.700
G magnitude          : 14.648
RP magnitude         : 13.384
BP magnitude         : 16.418
DUPflag             : 0
Distance (au)        : 5.088
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 11.57
Sun-Target sep (deg) : 92.91
Sun-Moon sep (deg)   : 32.63
B (ring opening deg) : -2.25
PA of pole (deg)     : 1.93
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 8.003
C/A sky separation (km) : 29531.6
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
    
```

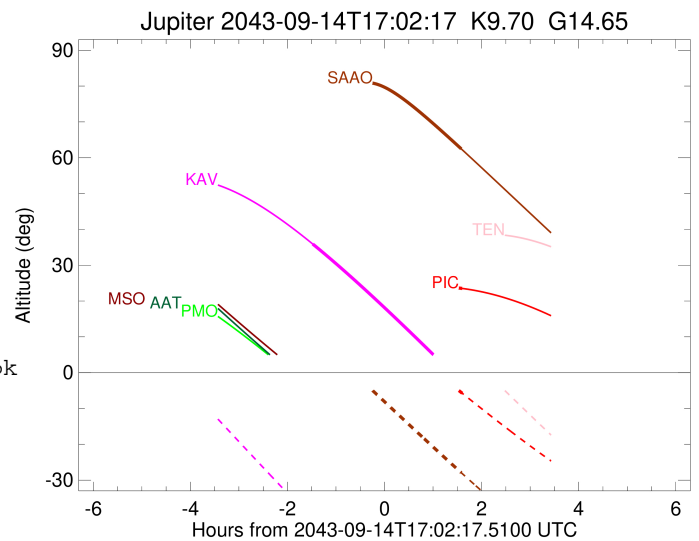
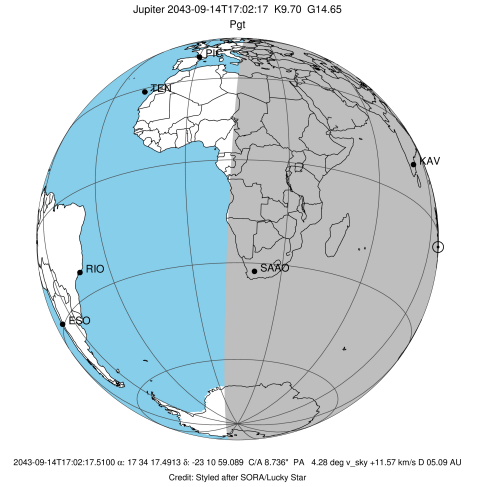


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-14T15:33:33.825	35.91	-41.05	71490.7	-26.10	-29.21
Jupiter	E	2043-09-14T18:44:05.534	-4.24x	-74.25	71491.0	-22.86	-25.71

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-14T17:03:14.930
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       : 4116681970991551232
2Mass ID (if available) : 17341750-2310585
ICRS Star Coord at Epoch: 17h 34m 17.49133s -23:10:59.08920s
RUWE (>1.4 is poor) : 0.93
K magnitude          : 9.700
G magnitude          : 14.648
RP magnitude         : 13.384
BP magnitude         : 16.418
DUPflag             : 0
Distance (au)        : 5.088
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 11.57
Sun-Target sep (deg) : 92.91
Sun-Moon sep (deg)   : 33.50
B (ring opening deg) : -2.25
PA of pole (deg)     : 1.93
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 8.989
C/A sky separation (km) : 33168.4
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	2043-09-14T15:28:53.758	71.99	11.54x	71490.2	-30.19	-33.57
Jupiter	E	2043-09-14T18:37:13.531	62.45	-27.93	71490.7	-25.38	-28.44