

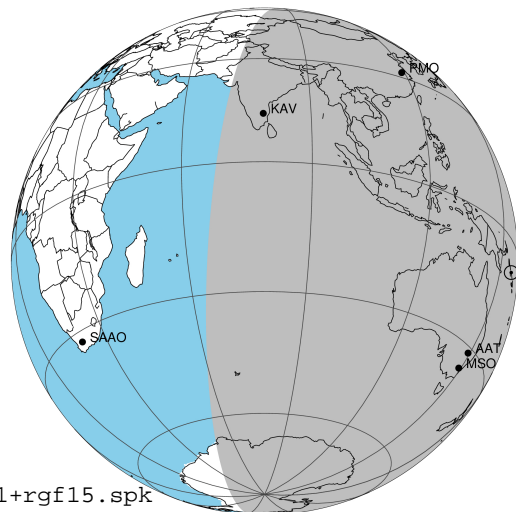
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-09-03T13:27:05.230
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4117422281516021760
 2Mass ID (if available) : 17312584-2307374

Jupiter 2043-09-03T13:27:05 K9.14 G14.32 Pgt

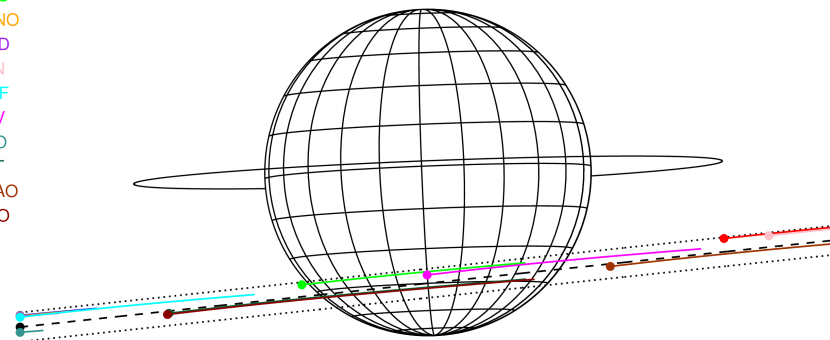
ICRS Star Coord at Epoch: 17h 31m 25.84661s -23°07'37.78594s

RUWE (>1.4 is poor) : 0.93
 K magnitude : 9.140
 G magnitude : 14.324
 RP magnitude : 13.032
 BP magnitude : 16.224
 DUPflag : 0
 Distance (au) : 4.919
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 6.34
 Sun-Target sep (deg) : 103.08
 Sun-Moon sep (deg) : 102.99
 B (ring opening deg) : -2.28
 PA of pole (deg) : 2.24
 Pole direction: RA (deg): 268.05673
 Dec (deg): 64.49731
 C/A sky separation (") : 13.524
 C/A sky separation (km) : 48245.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-09-03T13:27:05 K9.14 G14.32
 Pgt



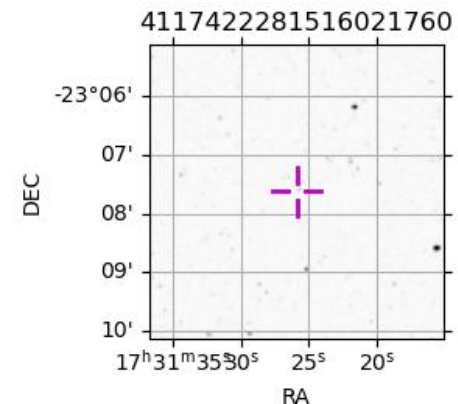
Earth
 PIC
 PAL
 PMO
 KPNO
 MCD
 TEN
 IRTF
 KAV
 ESO
 AAT
 SAAO
 MSO



2043-09-03T13:27:05.2300 α: 17 31 25.8466 δ: -23 07 37.786 C/A ***** PA 6.09 deg v_sky + 6.34 km/s D 04.92 AU
 Credit: Styled after SORA/Lucky Star

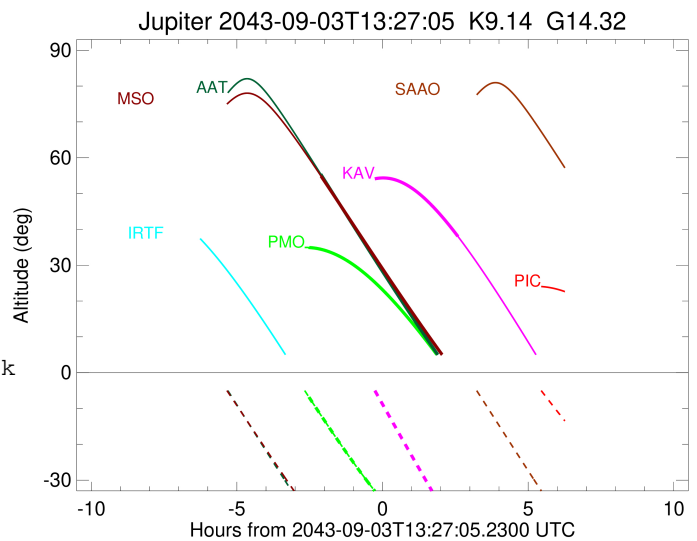
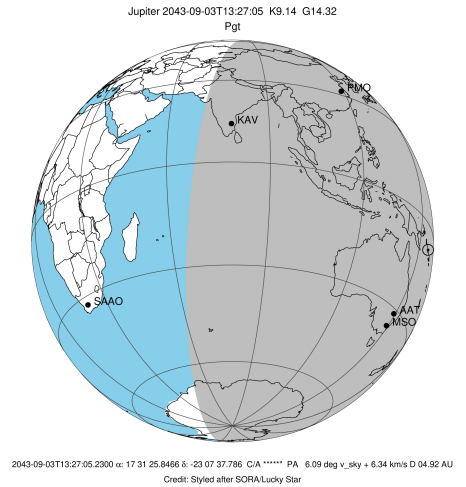
Observable events with sun below -5 deg and altitude above 5 deg

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	+	SEP 03 10:55 - SEP 03 10:55	Pin
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 03 16:02 - SEP 03 16:02	Pne
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	+	SEP 03 11:19 - SEP 03 11:19	Pin
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	SEP 03 11:20 - SEP 03 11:20	Pin



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-03T13:33:49.580
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : PMO
Location            : Purple Mtn Obs. Nanking
Latitude (deg)      : 32.06667
E. Longitude (deg)  : 118.82089
Altitude (km)       : 0.364
Gaia source ID      : 4117422281516021760
2Mass ID (if available) : 17312584-2307374
ICRS Star Coord at Epoch: 17h 31m 25.84661s -23:07:37.78594s
RUWE (>1.4 is poor) : 0.93
K magnitude          : 9.140
G magnitude          : 14.324
RP magnitude         : 13.032
BP magnitude         : 16.224
DUPflag             : 0
Distance (au)       : 4.919
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 6.34
Sun-Target sep (deg) : 103.08
Sun-Moon sep (deg)  : 103.25
B (ring opening deg) : -2.28
PA of pole (deg)    : 2.24
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 12.114
C/A sky separation (km) : 43217.3
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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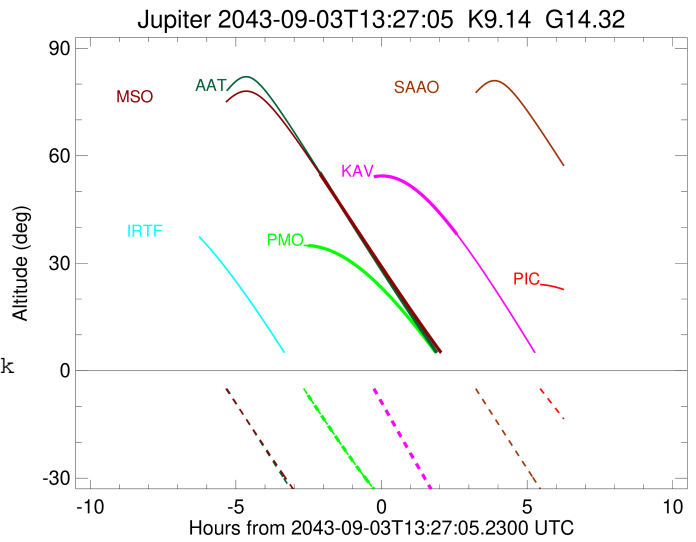
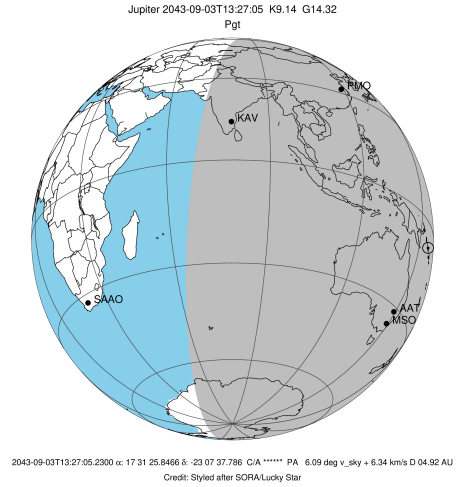


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-03T10:55:30.911	34.93	-6.81	71488.9	-40.84	-44.55
Jupiter	E	2043-09-03T16:06:54.939	-3.94x	-50.69	71489.7	-34.37	-37.95

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-03T13:26:55.980
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      : 4117422281516021760
2Mass ID (if available) : 17312584-2307374
ICRS Star Coord at Epoch: 17h 31m 25.84661s -23:07:37.78594s
RUWE (>1.4 is poor) : 0.93
K magnitude          : 9.140
G magnitude          : 14.324
RP magnitude         : 13.032
BP magnitude         : 16.224
DUPflag             : 0
Distance (au)       : 4.919
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 6.34
Sun-Target sep (deg) : 103.08
Sun-Moon sep (deg)  : 103.75
B (ring opening deg) : -2.28
PA of pole (deg)    : 2.24
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 12.488
C/A sky separation (km) : 44552.5
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
    
```

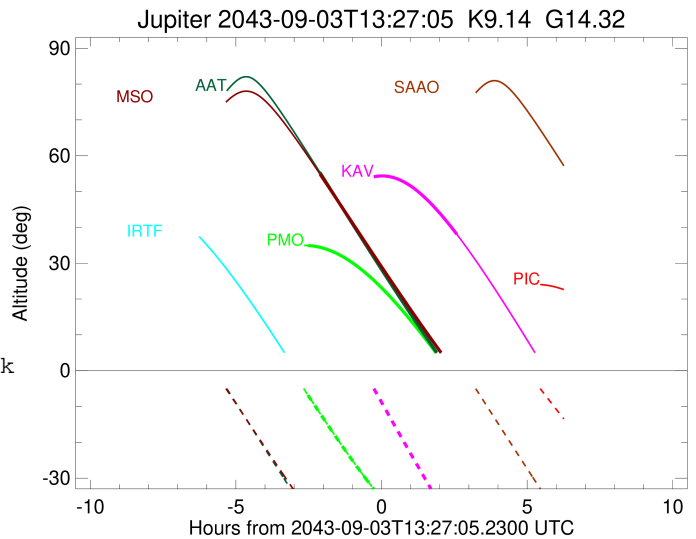
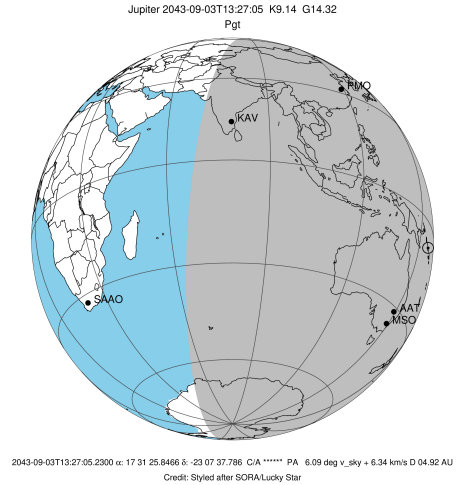


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-03T10:50:22.281	37.35	29.26x	71488.6	-43.36	-47.08
Jupiter	E	2043-09-03T16:02:21.670	38.05	-45.19	71489.7	-34.82	-38.41

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-03T13:38:26.760
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : AAT
Location             : Siding Spring (AAT)
Latitude (deg)       : -31.27703
E. Longitude (deg)  : 149.06608
Altitude (km)        : 1.164
Gaia source ID       : 4117422281516021760
2Mass ID (if available) : 17312584-2307374
ICRS Star Coord at Epoch: 17h 31m 25.84661s -23:07:37.78594s
RUWE (>1.4 is poor) : 0.93
K magnitude           : 9.140
G magnitude           : 14.324
RP magnitude          : 13.032
BP magnitude          : 16.224
DUPflag              : 0
Distance (au)         : 4.919
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 6.34
Sun-Target sep (deg) : 103.08
Sun-Moon sep (deg)   : 103.25
B (ring opening deg) : -2.28
PA of pole (deg)     : 2.24
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 14.045
C/A sky separation (km) : 50108.0
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
    
```

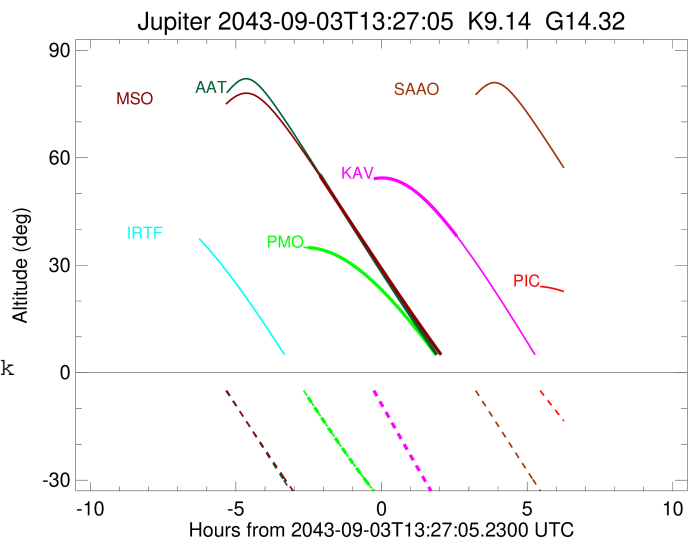
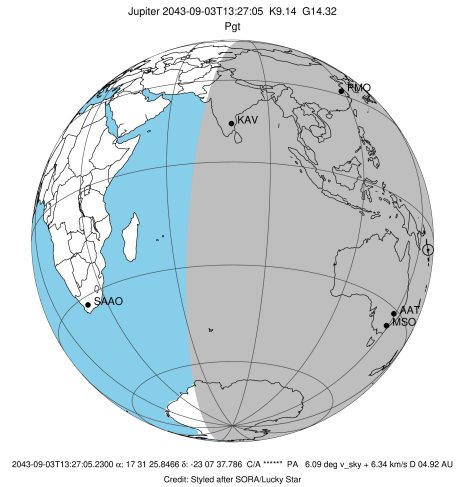


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-03T11:19:36.311	55.46	-45.18	71488.1	-47.34	-51.00
Jupiter	E	2043-09-03T15:51:55.958	-0.97x	-55.25	71488.8	-42.00	-45.72

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-03T13:38:02.020
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : MSO
Location             : Mt. Stromlo Observatory
Latitude (deg)       : -35.32000
E. Longitude (deg)   : 149.00833
Altitude (km)        : 0.770
Gaia source ID       : 4117422281516021760
2Mass ID (if available) : 17312584-2307374
ICRS Star Coord at Epoch: 17h 31m 25.84661s -23:07:37.78594s
RUWE (>1.4 is poor) : 0.93
K magnitude           : 9.140
G magnitude           : 14.324
RP magnitude         : 13.032
BP magnitude         : 16.224
DUPflag              : 0
Distance (au)        : 4.919
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 6.34
Sun-Target sep (deg) : 103.08
Sun-Moon sep (deg)   : 103.26
B (ring opening deg) : -2.28
PA of pole (deg)     : 2.24
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 14.154
C/A sky separation (km) : 50496.9
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	2043-09-03T11:20:27.319	54.87	-43.60	71488.1	-47.82	-51.47
Jupiter	E	2043-09-03T15:50:32.775	1.22x	-52.94	71488.8	-42.38	-46.10