

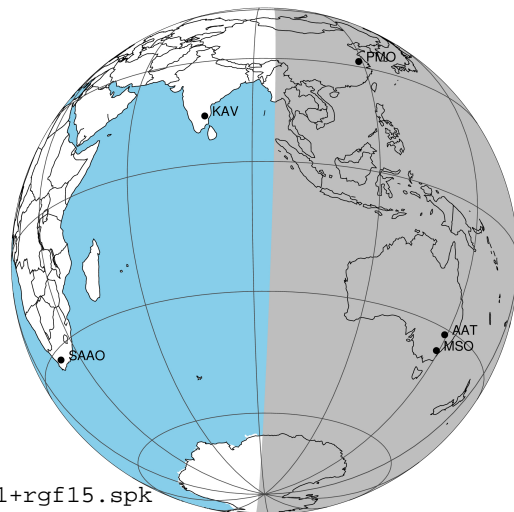
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-09-19T11:34:05.570
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116635031195270016
 2Mass ID (if available) : 17355923-2312438

Jupiter 2043-09-19T11:34:05 K9.69 G14.99 Pgt

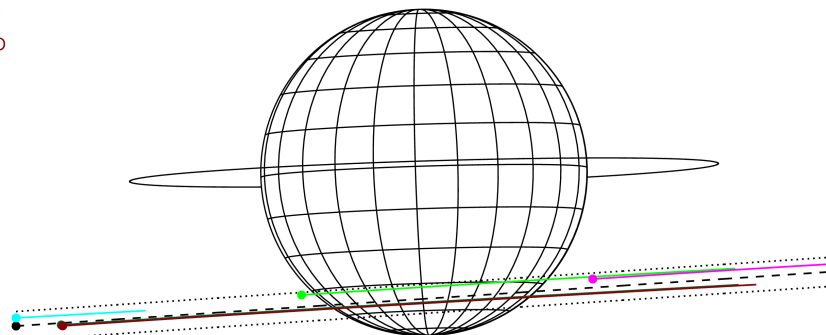
ICRS Star Coord at Epoch: 17h 35m 59.21945s -23:12:44.14759s

RUWE (>1.4 is poor) : 1.01
 K magnitude : 9.687
 G magnitude : 14.995
 RP magnitude : 13.618
 BP magnitude : 17.032
 DUPflag : 0
 Distance (au) : 5.161
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 13.78
 Sun-Target sep (deg) : 88.65
 Sun-Moon sep (deg) : 96.72
 B (ring opening deg) : -2.23
 PA of pole (deg) : 1.75
 Pole direction: RA (deg): 268.05673
 Dec (deg): 64.49731
 C/A sky separation (") : 14.754
 C/A sky separation (km) : 55226.0
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-09-19T11:34:05 K9.69 G14.99
 Pgt



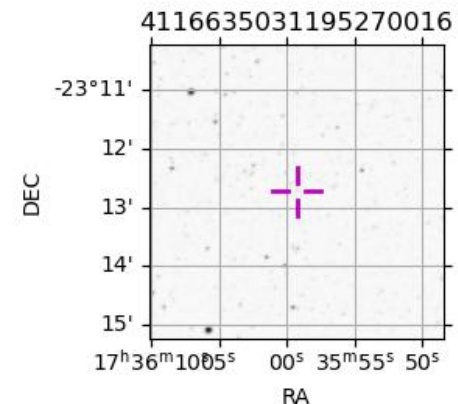
Earth
 PMO
 IRTF
 KAV
 AAT
 MSO



2043-09-19T11:34:05.5700 α: 17 35 59.2194 δ: -23 12 44.148 C/A ***** PA 3.81 deg v_sky +13.78 km/s D 05.16 AU
 Credit: Styled after SORA/Lucky Star

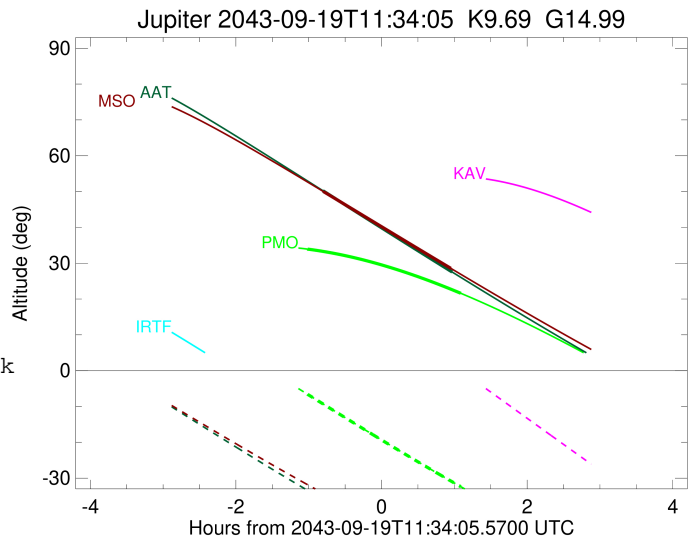
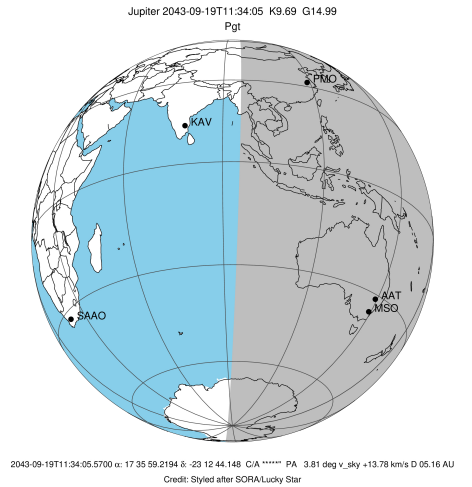
Observable events with sun below -5 deg and altitude above 5 deg

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 19 10:33 - SEP 19 12:39	Pie
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	+ +	SEP 19 10:45 - SEP 19 12:32	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	SEP 19 10:46 - SEP 19 12:31	Pie



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-19T11:36:25.430
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        : 4116635031195270016
2Mass ID (if available) : 17355923-2312438
ICRS Star Coord at Epoch: 17h 35m 59.21945s -23:12:44.14759s
RUWE (>1.4 is poor)  : 1.01
K magnitude           : 9.687
G magnitude           : 14.995
RP magnitude          : 13.618
BP magnitude          : 17.032
DUPflag              : 0
Distance (au)         : 5.161
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s)  : 13.78
Sun-Target sep (deg)  : 88.65
Sun-Moon sep (deg)    : 97.25
B (ring opening deg)  : -2.23
PA of pole (deg)      : 1.75
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 13.380
C/A sky separation (km) : 50083.1
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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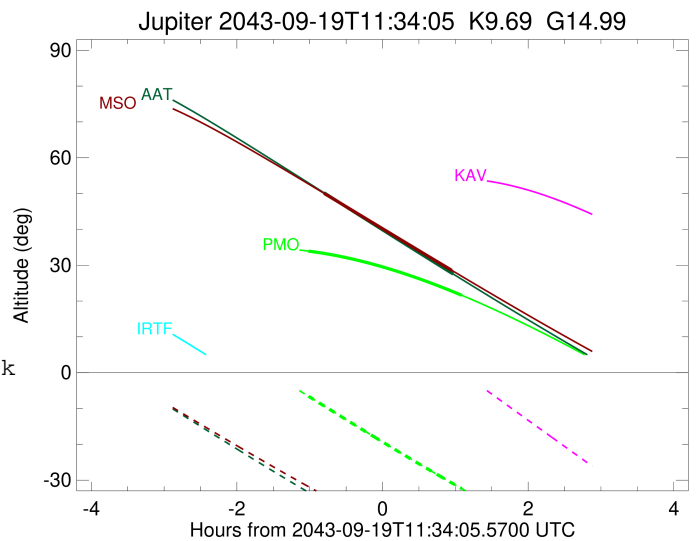
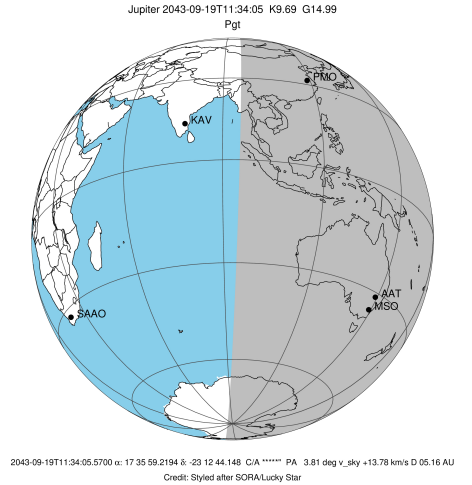


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-19T10:33:03.789	33.93	-6.57	71488.4	-46.38	-50.06
Jupiter	E	2043-09-19T12:39:28.319	21.59	-32.39	71488.9	-42.66	-46.38

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-19T11:39:11.070
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      : 4116635031195270016
2Mass ID (if available) : 17355923-2312438
ICRS Star Coord at Epoch: 17h 35m 59.21945s -23:12:44.14759s
RUWE (>1.4 is poor) : 1.01
K magnitude          : 9.687
G magnitude          : 14.995
RP magnitude         : 13.618
BP magnitude         : 17.032
DUPflag             : 0
Distance (au)       : 5.161
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 13.78
Sun-Target sep (deg) : 88.65
Sun-Moon sep (deg)  : 97.44
B (ring opening deg) : -2.23
PA of pole (deg)    : 1.75
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 15.177
C/A sky separation (km) : 56808.8
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
    
```

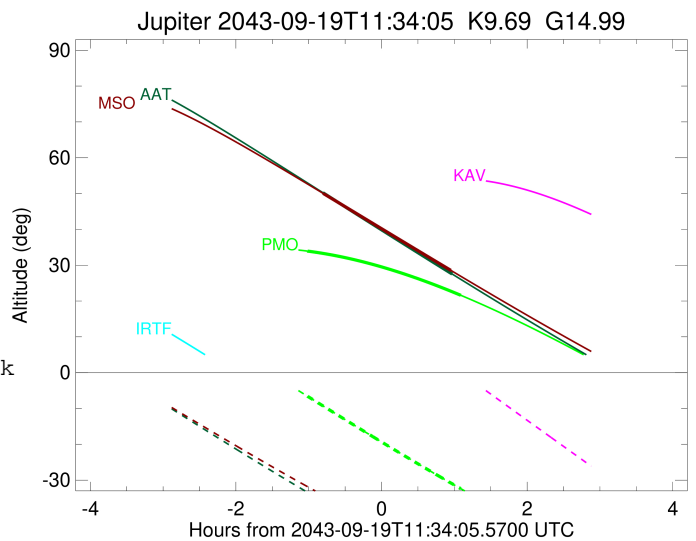
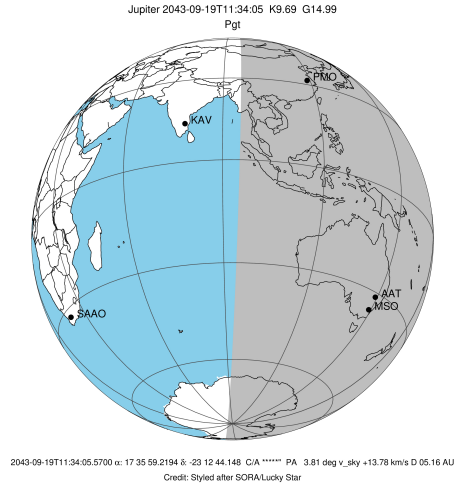


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-19T10:45:44.826	50.24	-35.90	71487.5	-54.18	-57.59
Jupiter	E	2043-09-19T12:32:15.683	27.55	-54.11	71487.9	-51.06	-54.61

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-19T11:38:58.870
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       : 4116635031195270016
2Mass ID (if available) : 17355923-2312438
ICRS Star Coord at Epoch: 17h 35m 59.21945s -23:12:44.14759s
RUWE (>1.4 is poor) : 1.01
K magnitude           : 9.687
G magnitude           : 14.995
RP magnitude         : 13.618
BP magnitude         : 17.032
DUPflag              : 0
Distance (au)        : 5.161
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 13.78
Sun-Target sep (deg) : 88.65
Sun-Moon sep (deg)   : 97.44
B (ring opening deg) : -2.23
PA of pole (deg)     : 1.75
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 15.285
C/A sky separation (km) : 57214.2
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	2043-09-19T10:46:14.773	49.99	-34.25	71487.4	-54.74	-58.12
Jupiter	E	2043-09-19T12:31:22.683	28.53	-50.74	71487.8	-51.57	-55.10