

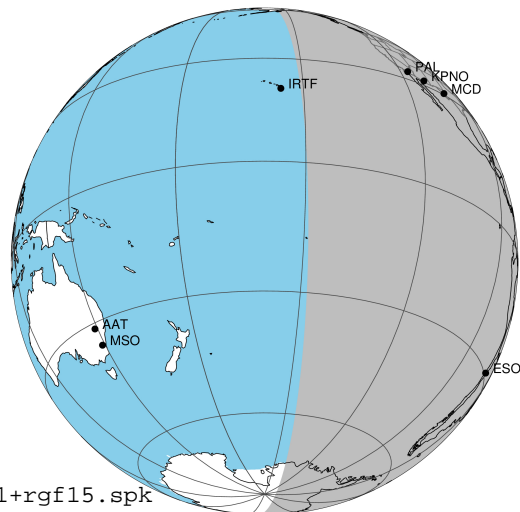
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-09-29T03:49:03.400
 Event type : Pt
 : Jupiter occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 4116536727981292672
 2Mass ID (if available) : 17401416-2316166

Jupiter 2043-09-29T03:49:03 K7.04 G12.43 Pt

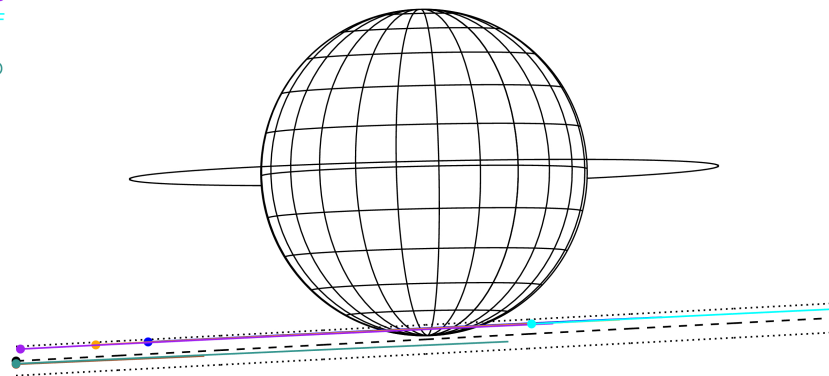
ICRS Star Coord at Epoch: 17h 40m 14.13183s -23:16:16.82767s

RUWE (>1.4 is poor) : 0.63
 K magnitude : 7.035
 G magnitude : 12.433
 RP magnitude : 10.936
 BP magnitude : 15.369
 DUPflag : 0
 Distance (au) : 5.308
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 18.18
 Sun-Target sep (deg) : 80.16
 Sun-Moon sep (deg) : 127.15
 B (ring opening deg) : -2.20
 PA of pole (deg) : 1.29
 Pole direction: RA (deg): 268.05674
 Dec (deg): 64.49731
 C/A sky separation (") : 18.975
 C/A sky separation (km) : 73054.0
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-09-29T03:49:03 K7.04 G12.43 Pt



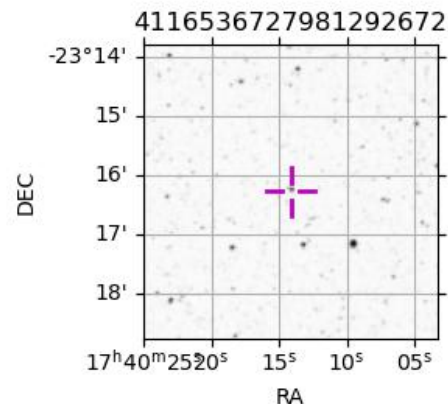
Earth
 PAL
 KPNO
 MCD
 IRTF
 RIO
 ESO



2043-09-29T03:49:03.4000 α: 17 40 14.1318 δ: -23 16 16.828 C/A ***** PA 3.02 deg v_sky +18.18 km/s D 05.31 AU
 Credit: Styled after SORA/Lucky Star

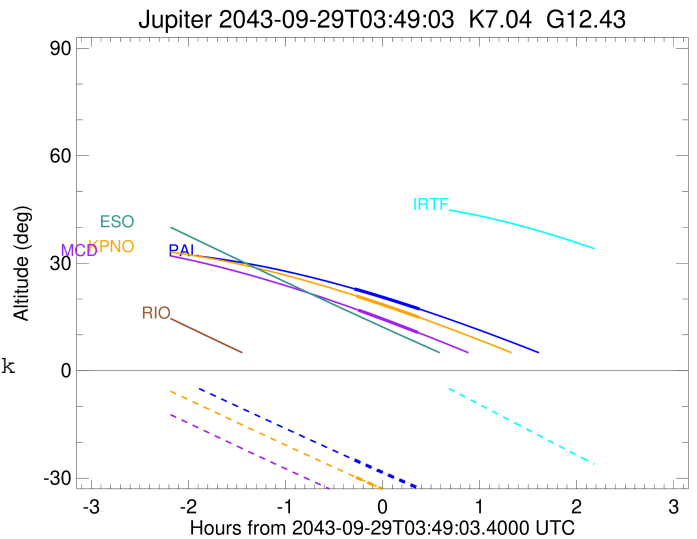
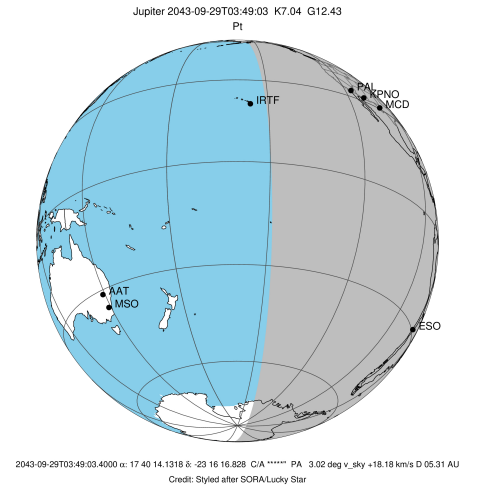
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	SEP 29 03:31 - SEP 29 04:11	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	SEP 29 03:32 - SEP 29 04:11	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+ +	SEP 29 03:34 - SEP 29 04:11	Pie
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			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-29T03:51:52.330
Event type           : Pt
: Jupiter occs: topocentric, not geocentric
: Not a ringed target
Observer code        : PAL
Location             : Palomar Mt (200")
Latitude (deg)       : 33.35622
E. Longitude (deg)   : 243.13601
Altitude (km)        : 1.706
Gaia source ID       : 4116536727981292672
2Mass ID (if available) : 17401416-2316166
ICRS Star Coord at Epoch: 17h 40m 14.13183s -23:16:16.82767s
RUWE (>1.4 is poor) : 0.63
K magnitude           : 7.035
G magnitude           : 12.433
RP magnitude          : 10.936
BP magnitude          : 15.369
DUPflag              : 0
Distance (au)         : 5.308
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 18.18
Sun-Target sep (deg) : 80.16
Sun-Moon sep (deg)   : 127.13
B (ring opening deg) : -2.20
PA of pole (deg)     : 1.29
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation ("): 17.700
C/A sky separation (km): 68144.1
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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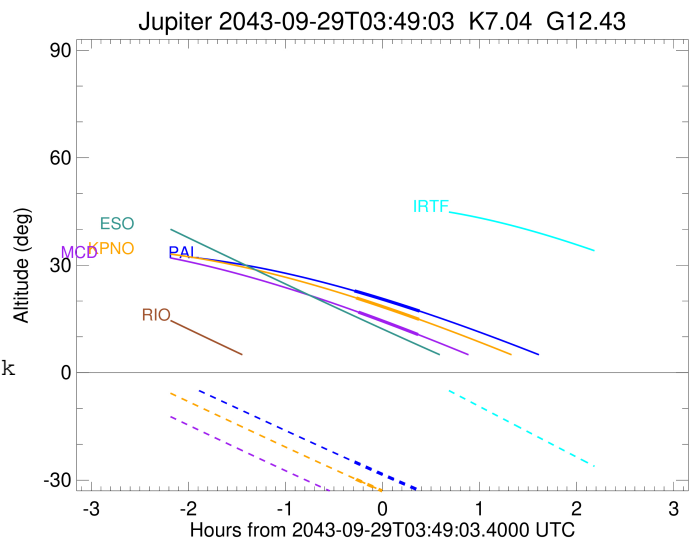
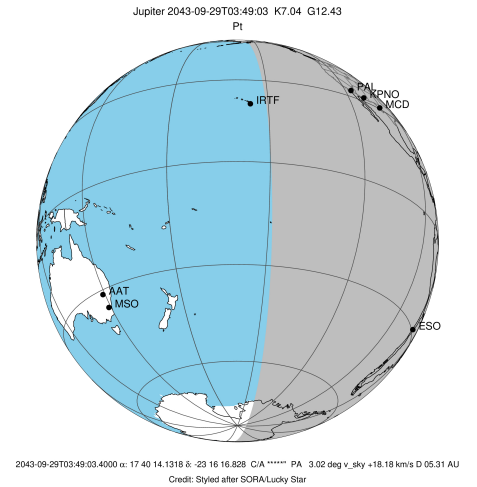


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-29T03:31:45.633	22.83	-24.91	71485.9	-73.72	-75.57
Jupiter	E	2043-09-29T04:11:57.102	17.19	-32.92	71486.1	-70.87	-73.01

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-29T03:52:12.710
Event type           : Pt
: Jupiter occs: topocentric, not geocentric
: Not a ringed target
Observer code        : KPNO
Location             : Kitt Peak Natl Obs
Latitude (deg)       : 31.96333
E. Longitude (deg)   : 248.40000
Altitude (km)        : 2.120
Gaia source ID       : 4116536727981292672
2Mass ID (if available) : 17401416-2316166
ICRS Star Coord at Epoch: 17h 40m 14.13183s -23:16:16.82767s
RUWE (>1.4 is poor) : 0.63
K magnitude          : 7.035
G magnitude          : 12.433
RP magnitude         : 10.936
BP magnitude         : 15.369
DUPflag             : 0
Distance (au)        : 5.308
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 18.18
Sun-Target sep (deg) : 80.16
Sun-Moon sep (deg)   : 127.07
B (ring opening deg) : -2.20
PA of pole (deg)     : 1.29
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation ("): 17.757
C/A sky separation (km): 68363.1
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
    
```

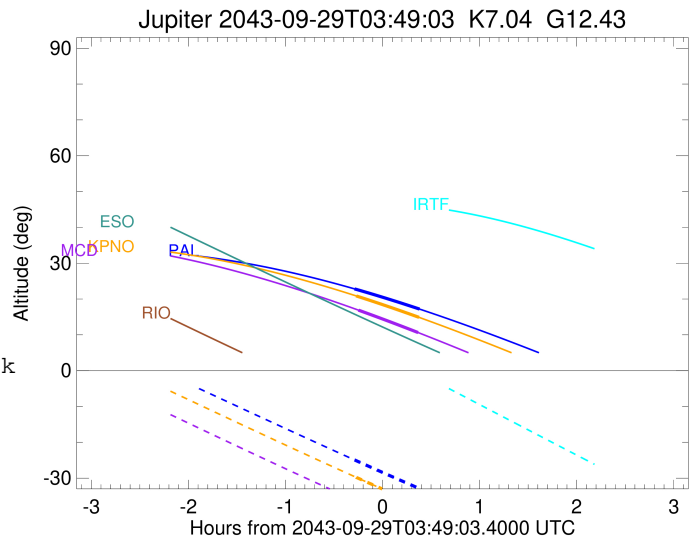
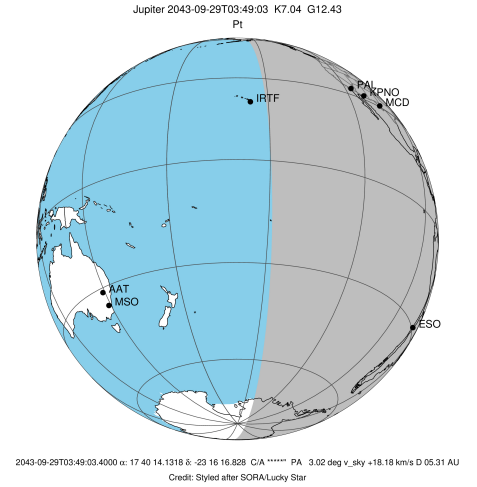


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-29T03:32:46.610	20.87	-29.77	71485.8	-74.26	-76.05
Jupiter	E	2043-09-29T04:11:36.847	14.88	-37.48	71486.0	-71.50	-73.57

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-29T03:52:37.790
Event type           : Pt
: Jupiter occs: topocentric, not geocentric
: Not a ringed target
Observer code        : MCD
Location             : McDonald Obs. 2.7m
Latitude (deg)       : 30.67158
E. Longitude (deg)   : 255.97844
Altitude (km)        : 2.075
Gaia source ID       : 4116536727981292672
2Mass ID (if available) : 17401416-2316166
ICRS Star Coord at Epoch: 17h 40m 14.13183s -23:16:16.82767s
RUWE (>1.4 is poor) : 0.63
K magnitude           : 7.035
G magnitude           : 12.433
RP magnitude         : 10.936
BP magnitude         : 15.369
DUPflag              : 0
Distance (au)        : 5.308
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 18.18
Sun-Target sep (deg) : 80.16
Sun-Moon sep (deg)   : 126.97
B (ring opening deg) : -2.20
PA of pole (deg)     : 1.29
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation ("): 17.835
C/A sky separation (km): 68662.5
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	2043-09-29T03:34:10.021	16.90	-36.59	71485.8	-75.04	-76.75
Jupiter	E	2043-09-29T04:11:03.612	10.64	-43.74	71486.0	-72.38	-74.37