

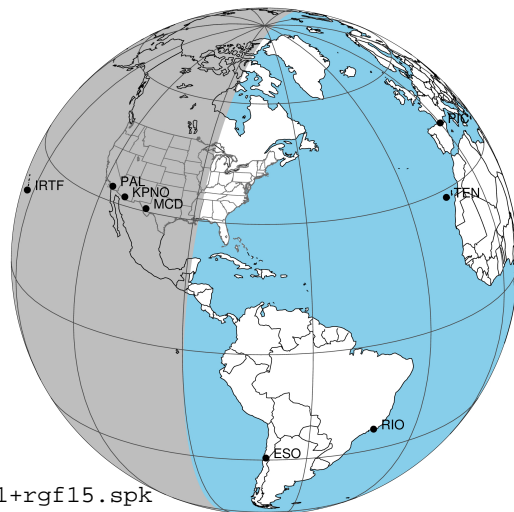
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2025-09-28T11:49:49.480  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 865359567101771392  
 2Mass ID (if available) : 07341123+2141049

Jupiter 2025-09-28T11:49:49 K9.70 G10.95 Pgt

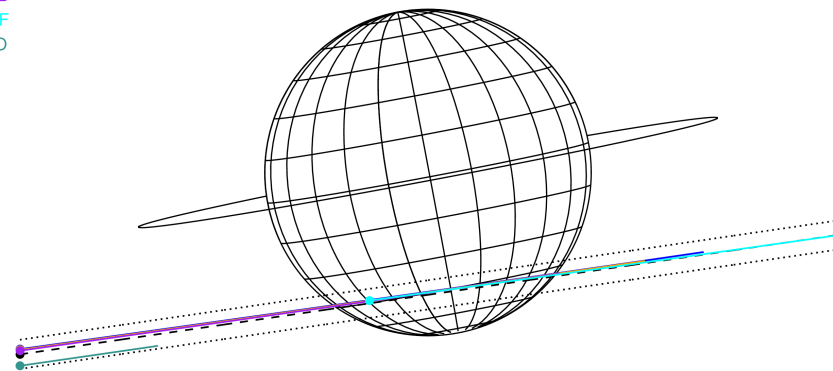
ICRS Star Coord at Epoch: 07h 34m 11.17546s +21:41:04.85533s

RUWE (>1.4 is poor) : 0.93  
 K magnitude : 9.700  
 G magnitude : 10.954  
 RP magnitude : 10.510  
 BP magnitude : 11.235  
 DUPflag : 0  
 Distance (au) : 5.373  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 20.74  
 Sun-Target sep (deg) : 73.47  
 Sun-Moon sep (deg) : 146.42  
 B (ring opening deg) : 1.58  
 PA of pole (deg) : 10.68  
 Pole direction: RA (deg): 268.05773  
 Dec (deg): 64.49670  
 C/A sky separation (") : 13.607  
 C/A sky separation (km) : 53021.3  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk

Jupiter 2025-09-28T11:49:49 K9.70 G10.95  
 Pgt



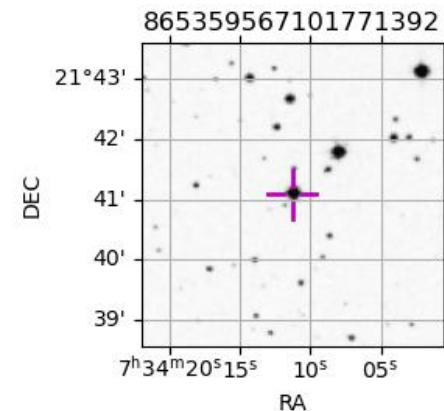
Earth  
 PAL  
 KPNO  
 MCD  
 IRTF  
 ESO



2025-09-28T11:49:49.4800 a: 07 34 11.1755 & +21 41 04.855 C/A \*\*\*\*\* PA 8.30 deg v\_sky +20.74 km/s D 05.37 AU  
 Credit: Styled after SORA/Lucky Star

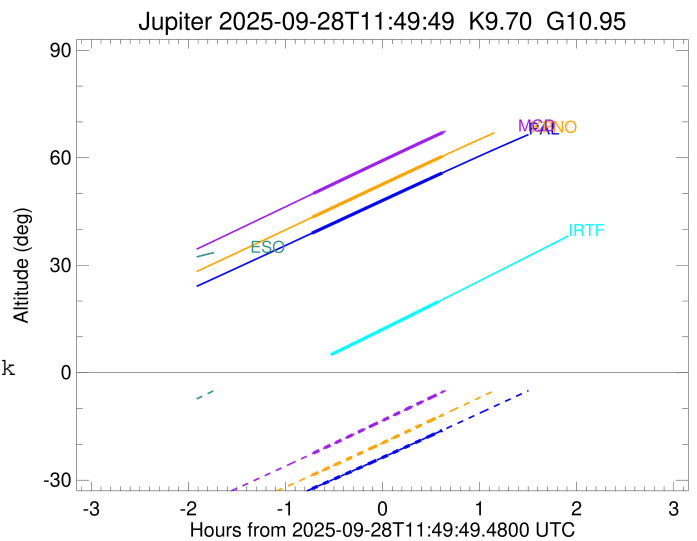
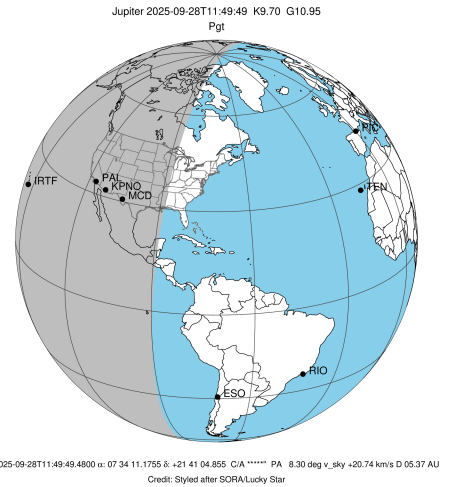
Observable events with sun below -5 deg and altitude above 5 deg

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 28 11:06 - SEP 28 12:26	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	SEP 28 11:06 - SEP 28 12:26	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+ +	SEP 28 11:07 - SEP 28 12:27	Pie
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5		SEP 28 12:24 - SEP 28 12:24	Pne
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             : 2025-09-28T11:46:23.190
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: 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       : 865359567101771392
2Mass ID (if available) : 07341123+2141049
ICRS Star Coord at Epoch: 07h 34m 11.17546s +21:41:04.85533s
RUWE (>1.4 is poor) : 0.93
K magnitude           : 9.700
G magnitude           : 10.954
RP magnitude         : 10.510
BP magnitude         : 11.235
DUPflag              : 0
Distance (au)        : 5.373
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 20.74
Sun-Target sep (deg) : 73.47
Sun-Moon sep (deg)   : 146.29
B (ring opening deg) : 1.58
PA of pole (deg)     : 10.68
Pole direction: RA (deg): 268.05773
Dec (deg): 64.49670
C/A sky separation ("): 13.273
C/A sky separation (km): 51718.6
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
    
```

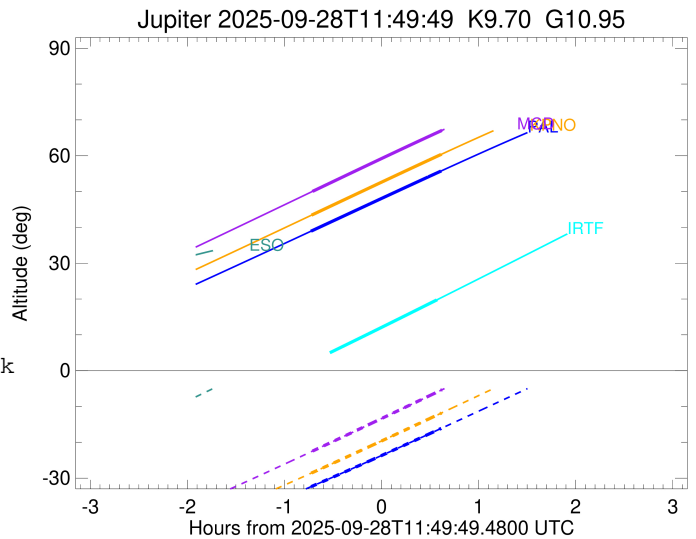
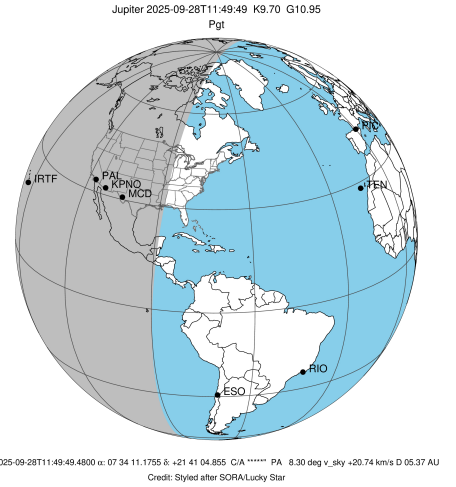


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2025-09-28T11:06:13.747	38.93	-32.39	71490.4	-43.73	-47.44
Jupiter	E	2025-09-28T12:26:39.800	55.73	-16.13	71490.1	-48.84	-52.46

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2025-09-28T11:46:40.990
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: 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        : 865359567101771392
2Mass ID (if available) : 07341123+2141049
ICRS Star Coord at Epoch: 07h 34m 11.17546s +21:41:04.85533s
RUWE (>1.4 is poor) : 0.93
K magnitude           : 9.700
G magnitude           : 10.954
RP magnitude          : 10.510
BP magnitude          : 11.235
DUPflag              : 0
Distance (au)         : 5.373
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 20.74
Sun-Target sep (deg) : 73.47
Sun-Moon sep (deg)   : 146.36
B (ring opening deg) : 1.58
PA of pole (deg)     : 10.68
Pole direction: RA (deg): 268.05773
Dec (deg): 64.49670
C/A sky separation (") : 13.330
C/A sky separation (km) : 51942.3
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
    
```

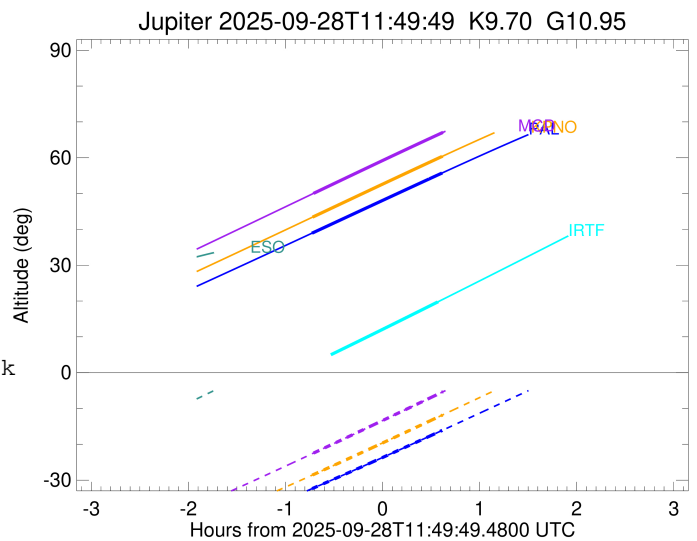
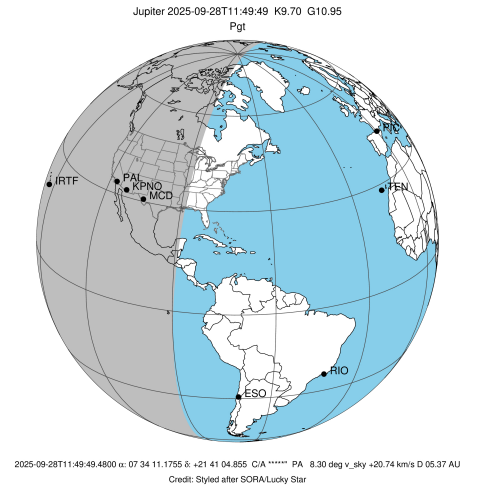


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2025-09-28T11:06:39.373	43.42	-28.55	71490.3	-44.02	-47.73
Jupiter	E	2025-09-28T12:26:49.220	60.39	-11.84	71490.1	-49.06	-52.68

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2025-09-28T11:47:11.070
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: 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       : 865359567101771392
2Mass ID (if available) : 07341123+2141049
ICRS Star Coord at Epoch: 07h 34m 11.17546s +21:41:04.85533s
RUWE (>1.4 is poor) : 0.93
K magnitude           : 9.700
G magnitude           : 10.954
RP magnitude         : 10.510
BP magnitude         : 11.235
DUPflag              : 0
Distance (au)        : 5.373
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 20.74
Sun-Target sep (deg) : 73.47
Sun-Moon sep (deg)   : 146.46
B (ring opening deg) : 1.58
PA of pole (deg)     : 10.68
Pole direction: RA (deg): 268.05773
Dec (deg): 64.49670
C/A sky separation (") : 13.386
C/A sky separation (km) : 52160.2
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
    
```

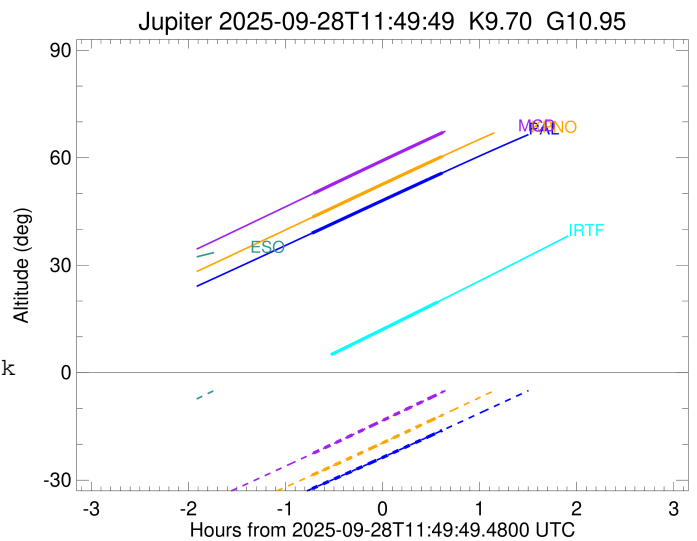
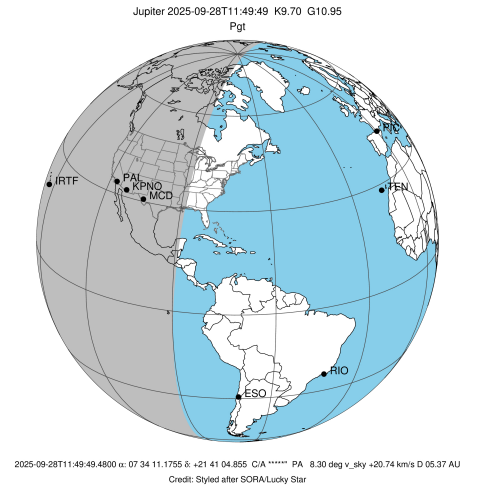


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2025-09-28T11:07:16.212	50.06	-22.43	71490.3	-44.33	-48.04
Jupiter	E	2025-09-28T12:27:11.657	67.06	-5.34	71490.0	-49.26	-52.87

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2025-09-28T11:44:32.120
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : IRTF
Location             : Mauna Kea/IRTF
Latitude (deg)       : 19.82622
E. Longitude (deg)   : 204.52800
Altitude (km)        : 4.168
Gaia source ID       : 865359567101771392
2Mass ID (if available) : 07341123+2141049
ICRS Star Coord at Epoch: 07h 34m 11.17546s +21:41:04.85533s
RUWE (>1.4 is poor) : 0.93
K magnitude          : 9.700
G magnitude          : 10.954
RP magnitude         : 10.510
BP magnitude         : 11.235
DUPflag             : 0
Distance (au)        : 5.373
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 20.74
Sun-Target sep (deg) : 73.47
Sun-Moon sep (deg)   : 145.79
B (ring opening deg) : 1.58
PA of pole (deg)     : 10.68
Pole direction: RA (deg): 268.05773
Dec (deg): 64.49670
C/A sky separation (") : 13.367
C/A sky separation (km) : 52086.5
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	2025-09-28T11:05:09.736	2.21x	-68.29	71490.4	-43.92	-47.64
Jupiter	E	2025-09-28T12:24:04.679	19.77	-53.42	71490.0	-49.53	-53.13