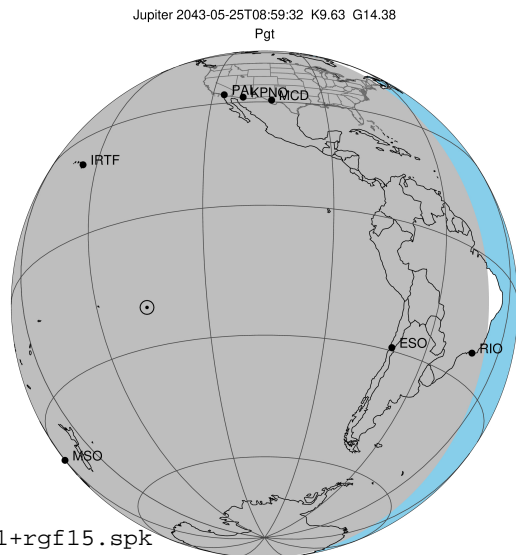


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-05-25T08:59:32.840
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4069584665211760896
 2Mass ID (if available) : 18045587-2301575

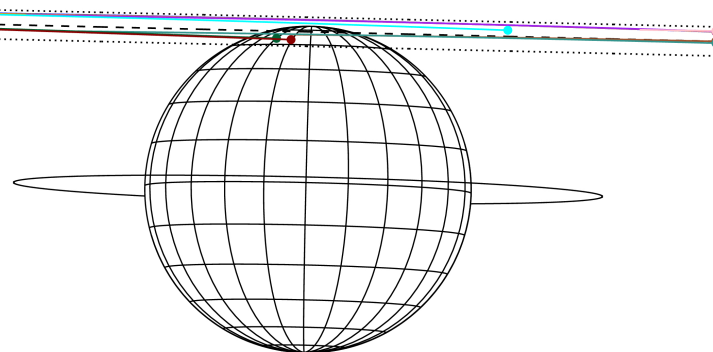
Jupiter 2043-05-25T08:59:32 K9.63 G14.38 Pgt

ICRS Star Coord at Epoch: 18h 04m 55.87506s -23°01'57.57722s
 RUWE (>1.4 is poor) : 0.97
 K magnitude : 9.633
 G magnitude : 14.383
 RP magnitude : 13.193
 BP magnitude : 15.927
 DUPflag : 0
 Distance (au) : 4.357
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -13.02
 Sun-Target sep (deg) : 152.34
 Sun-Moon sep (deg) : 13.42
 B (ring opening deg) : -2.44
 PA of pole (deg) : -1.37
 Pole direction: RA (deg): 268.05667
 Dec (deg): 64.49732
 C/A sky separation (") : 21.853
 C/A sky separation (km) : 69062.6
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLv1.spk
 naif0012.tls
 nep097.bsp
 nep101.bsp
 sat4401.bsp



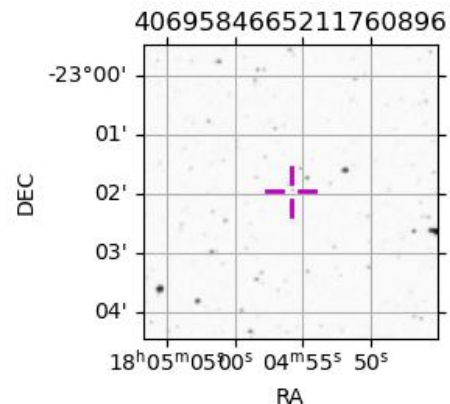
2043-05-25T08:59:32.8400 a: 18 04 55.8751 & -23 01 57.577 C/A ***** PA 178.65 deg v_sky -13.02 km/s D 04.36 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PAL
 KPNO
 MCD
 TEN
 IRTF
 RIO
 ESO
 AAT
 MSO



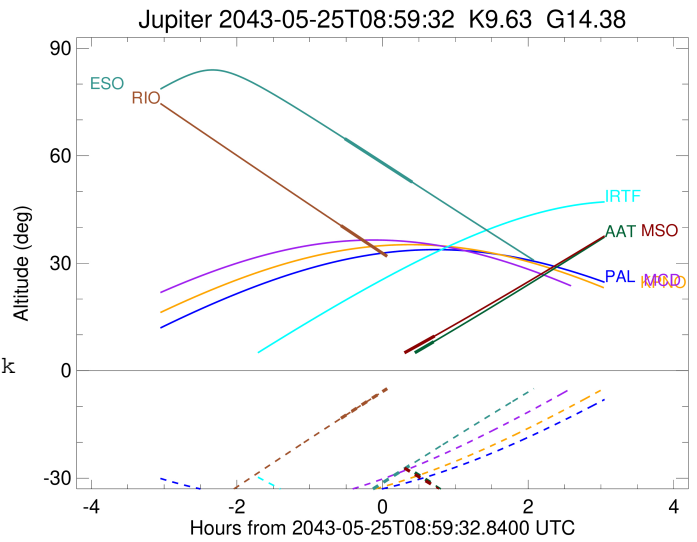
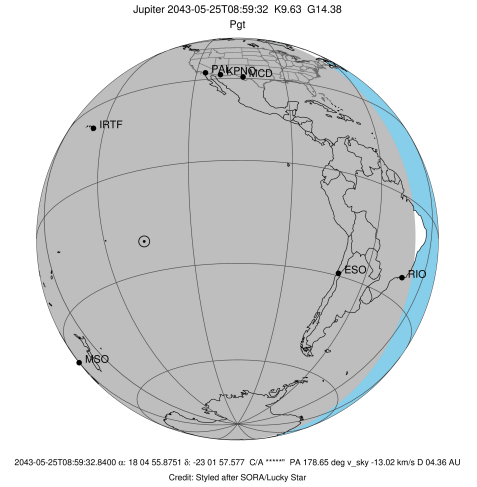
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events	Interval	OEcode
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				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				Pnn
RIO	Rio de Janeiro	-22.9	316.8	+	MAY 25 08:25	- MAY 25 08:25	Pin
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	MAY 25 08:28	- MAY 25 09:24	Pie
AAT	Siding Spring (AAT)	-31.3	149.1	+	MAY 25 09:41	- MAY 25 09:41	Pne
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8				Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	MAY 25 09:42	- MAY 25 09:42	Pne



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-05-25T08:53:59.770
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : RIO
Location             : Rio de Janeiro
Latitude (deg)       : -22.89506
E. Longitude (deg)   : 316.77708
Altitude (km)        : 0.033
Gaia source ID       : 4069584665211760896
2Mass ID (if available) : 18045587-2301575
ICRS Star Coord at Epoch: 18h 04m 55.87506s -23:01:57.57722s
RUWE (>1.4 is poor) : 0.97
K magnitude           : 9.633
G magnitude           : 14.383
RP magnitude          : 13.193
BP magnitude          : 15.927
DUPflag              : 0
Distance (au)         : 4.357
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -13.02
Sun-Target sep (deg) : 152.34
Sun-Moon sep (deg)   : 14.14
B (ring opening deg) : -2.44
PA of pole (deg)     : -1.37
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 21.441
C/A sky separation (km) : 67759.4
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
    
```

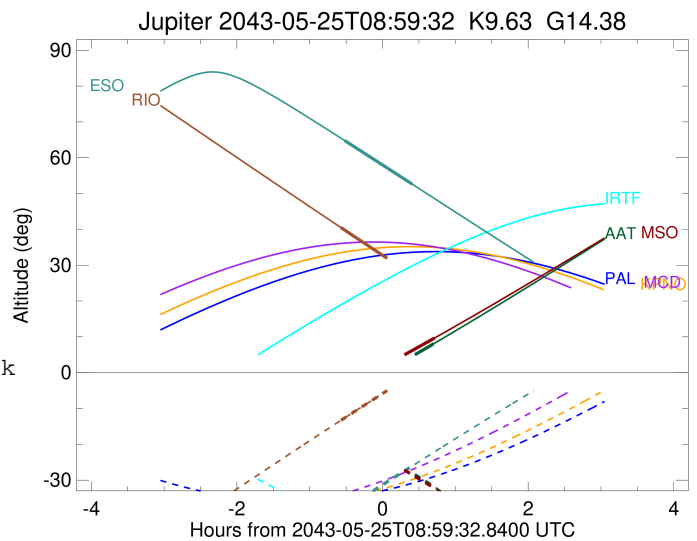
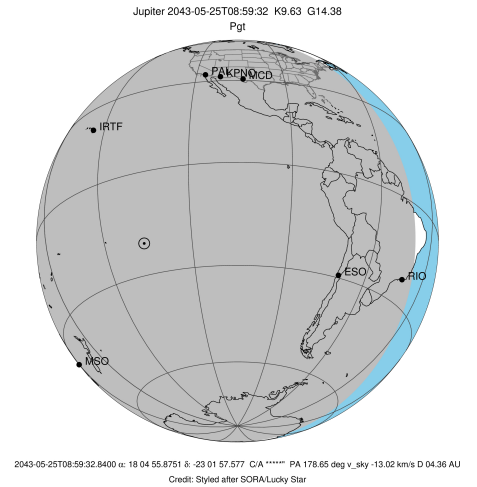


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-05-25T08:25:17.953	40.50	-13.31	71484.7	71.92	73.96
Jupiter	E	2043-05-25T09:22:46.903	27.57	-0.85x	71484.8	70.57	72.74

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-05-25T08:56:12.760
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : ESO
Location            : European Southern Obs. (3.6m)
Latitude (deg)      : -29.26097
E. Longitude (deg)  : 289.26831
Altitude (km)       : 2.400
Gaia source ID      : 4069584665211760896
2Mass ID (if available) : 18045587-2301575
ICRS Star Coord at Epoch: 18h 04m 55.87506s -23:01:57.57722s
RUWE (>1.4 is poor) : 0.97
K magnitude          : 9.633
G magnitude          : 14.383
RP magnitude         : 13.193
BP magnitude         : 15.927
DUPflag             : 0
Distance (au)       : 4.357
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -13.02
Sun-Target sep (deg) : 152.34
Sun-Moon sep (deg)  : 13.96
B (ring opening deg) : -2.44
PA of pole (deg)    : -1.37
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 21.493
C/A sky separation (km) : 67923.8
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
    
```

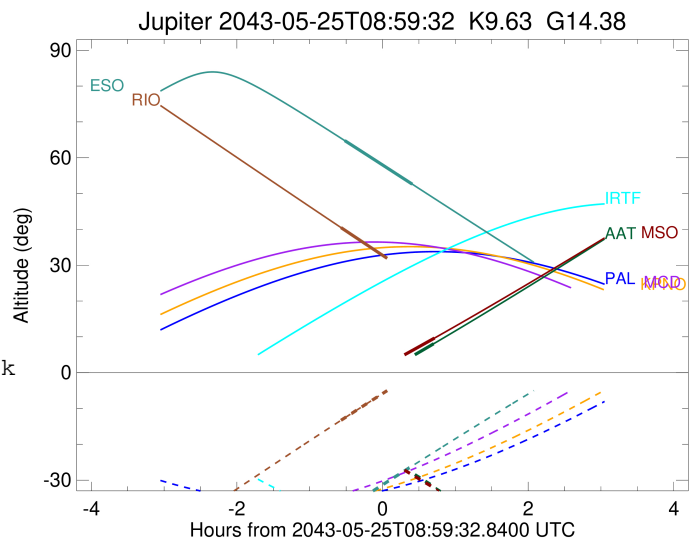
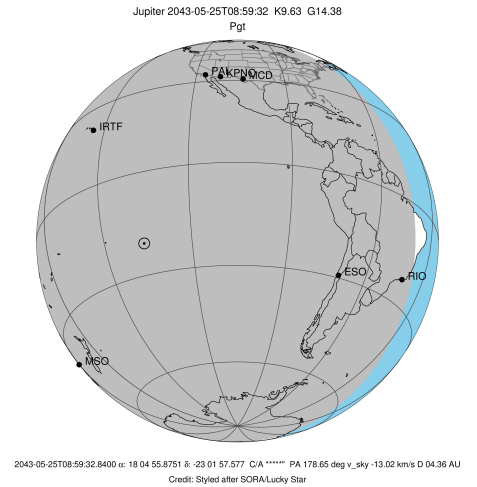


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-05-25T08:28:22.494	64.79	-38.08	71484.7	72.09	74.11
Jupiter	E	2043-05-25T09:24:05.852	52.61	-26.02	71484.8	71.21	73.31

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-05-25T09:05:27.660
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       : 4069584665211760896
2Mass ID (if available) : 18045587-2301575
ICRS Star Coord at Epoch: 18h 04m 55.87506s -23:01:57.57722s
RUWE (>1.4 is poor) : 0.97
K magnitude          : 9.633
G magnitude          : 14.383
RP magnitude         : 13.193
BP magnitude         : 15.927
DUPflag             : 0
Distance (au)        : 4.357
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -13.02
Sun-Target sep (deg) : 152.34
Sun-Moon sep (deg)  : 12.56
B (ring opening deg) : -2.44
PA of pole (deg)    : -1.37
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation ("): 20.785
C/A sky separation (km): 65685.7
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
    
```

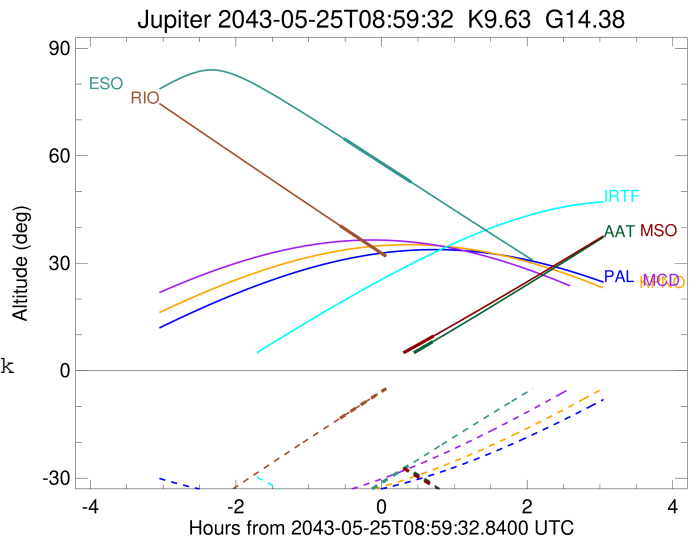
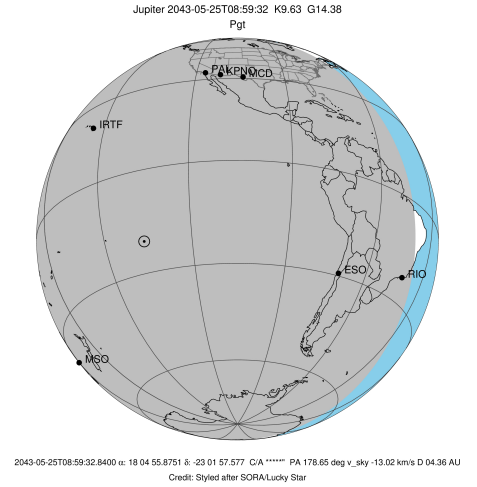


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-05-25T08:29:01.957	-5.86x	-16.48	71485.3	66.00	68.59
Jupiter	E	2043-05-25T09:41:42.509	8.07	-31.75	71485.1	67.30	69.78

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-05-25T09:05:12.800
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       : 4069584665211760896
2Mass ID (if available) : 18045587-2301575
ICRS Star Coord at Epoch: 18h 04m 55.87506s -23:01:57.57722s
RUWE (>1.4 is poor) : 0.97
K magnitude           : 9.633
G magnitude           : 14.383
RP magnitude          : 13.193
BP magnitude          : 15.927
DUPflag              : 0
Distance (au)        : 4.357
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -13.02
Sun-Target sep (deg) : 152.34
Sun-Moon sep (deg)   : 12.58
B (ring opening deg) : -2.44
PA of pole (deg)     : -1.37
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 20.679
C/A sky separation (km) : 65352.4
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	2043-05-25T08:27:48.513	-4.01x	-17.19	71485.3	65.36	68.01
Jupiter	E	2043-05-25T09:42:26.138	9.66	-32.24	71485.2	66.61	69.14