

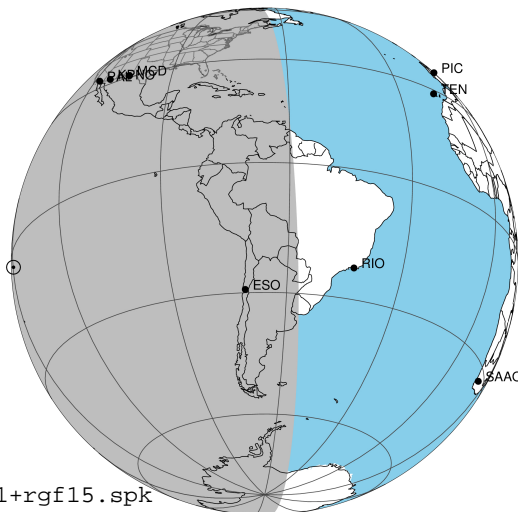
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-03-31T10:01:03.020
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4066632678333003136
 2Mass ID (if available) : 18102062-2258495

Jupiter 2043-03-31T10:01:03 K8.76 G13.24 Pgt

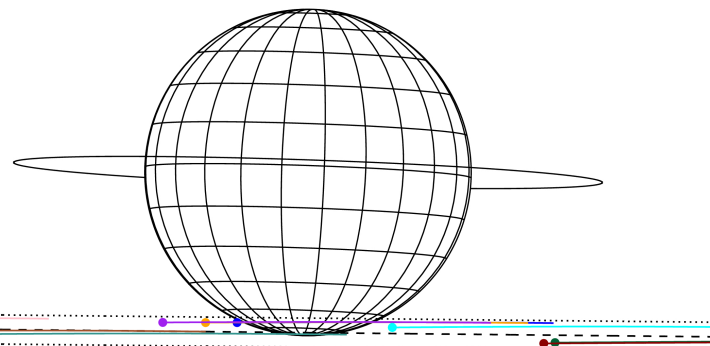
ICRS Star Coord at Epoch: 18h 10m 20.63433s -22:58:49.74070s

RUWE (>1.4 is poor) : 0.99
 K magnitude : 8.757
 G magnitude : 13.236
 RP magnitude : 12.084
 BP magnitude : 14.649
 DUPflag : 0
 Distance (au) : 5.068
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 9.26
 Sun-Target sep (deg) : 97.61
 Sun-Moon sep (deg) : 19.63
 B (ring opening deg) : -2.45
 PA of pole (deg) : -1.95
 Pole direction: RA (deg): 268.05664
 Dec (deg): 64.49732
 C/A sky separation (") : 19.087
 C/A sky separation (km) : 70159.1
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-03-31T10:01:03 K8.76 G13.24
 Pgt



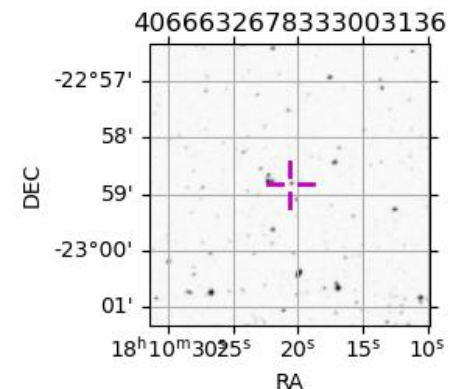
Earth
 PIC
 PAL
 KPNO
 MCD
 TEN
 IRTF
 RIO
 ESO
 AAT
 MSO



2043-03-31T10:01:03.0200 α: 18 10 20.6343 δ: -22 58 49.741 C/A ***** PA 359.41 deg v_sky + 9.26 km/s D 05.07 AU
 Credit: Styled after SORA/Lucky Star

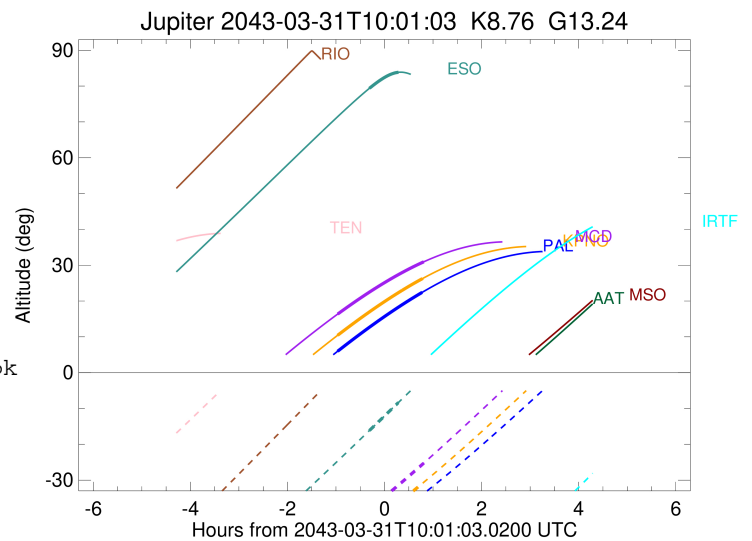
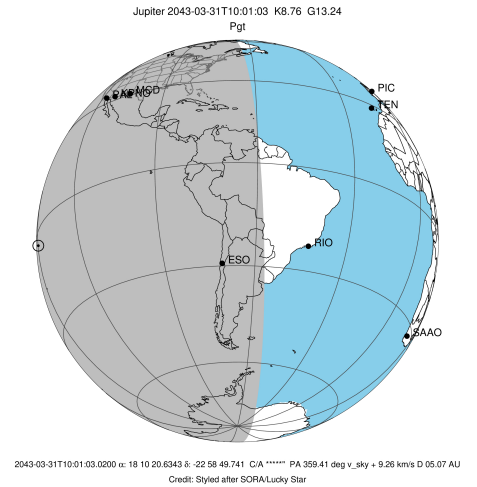
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1	+ +	MAR 31 09:03 - MAR 31 10:47	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	MAR 31 09:03 - MAR 31 10:48	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+ +	MAR 31 09:03 - MAR 31 10:49	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	+ +	MAR 31 09:42 - MAR 31 10:18	Pie
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



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-03-31T09:55:04.350
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       : 4066632678333003136
2Mass ID (if available) : 18102062-2258495
ICRS Star Coord at Epoch: 18h 10m 20.63433s -22:58:49.74070s
RUWE (>1.4 is poor) : 0.99
K magnitude          : 8.757
G magnitude          : 13.236
RP magnitude         : 12.084
BP magnitude         : 14.649
DUPflag             : 0
Distance (au)        : 5.068
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 9.26
Sun-Target sep (deg) : 97.61
Sun-Moon sep (deg)  : 19.37
B (ring opening deg) : -2.45
PA of pole (deg)    : -1.95
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation ("): 17.854
C/A sky separation (km): 65627.7
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
    
```

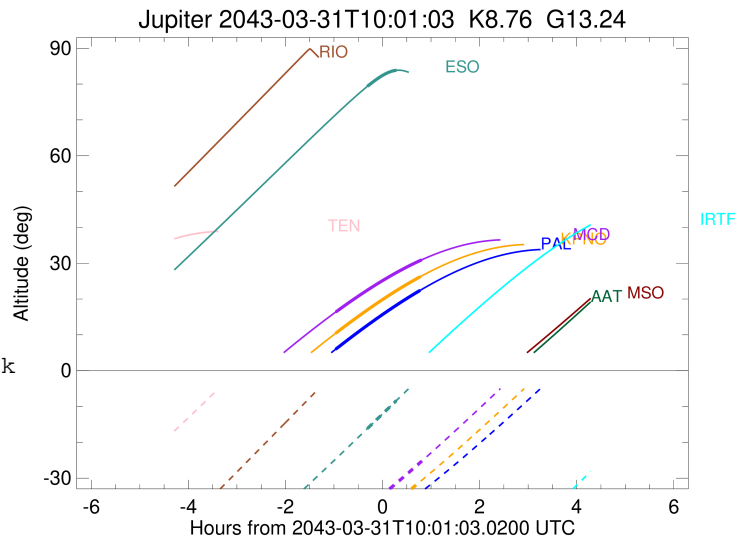
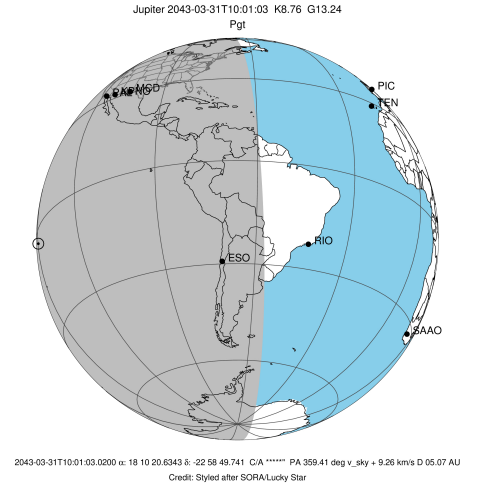


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-03-31T09:03:07.662	5.97	-48.99	71484.8	-68.68	-71.02
Jupiter	E	2043-03-31T10:47:30.008	22.40	-34.09	71485.3	-64.50	-67.22

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-03-31T09:55:26.500
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       : 4066632678333003136
2Mass ID (if available) : 18102062-2258495
ICRS Star Coord at Epoch: 18h 10m 20.63433s -22:58:49.74070s
RUWE (>1.4 is poor) : 0.99
K magnitude          : 8.757
G magnitude           : 13.236
RP magnitude         : 12.084
BP magnitude         : 14.649
DUPflag              : 0
Distance (au)        : 5.068
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 9.26
Sun-Target sep (deg) : 97.61
Sun-Moon sep (deg)   : 19.42
B (ring opening deg) : -2.45
PA of pole (deg)     : -1.95
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 17.841
C/A sky separation (km) : 65579.4
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
    
```

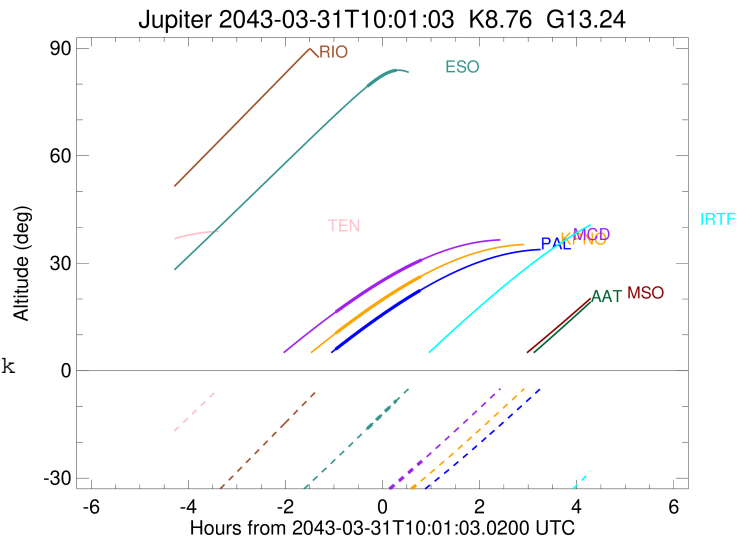
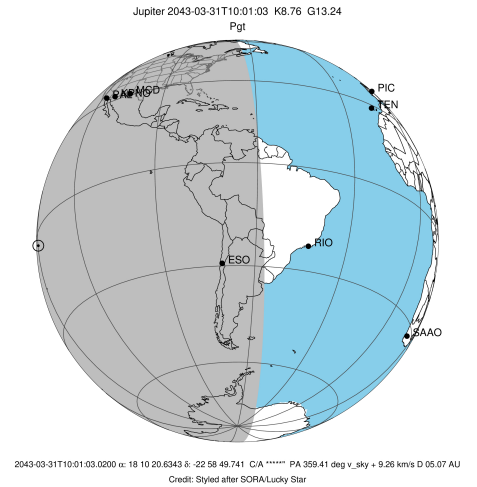


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-03-31T09:03:07.118	10.43	-47.83	71484.8	-68.54	-70.90
Jupiter	E	2043-03-31T10:48:13.910	26.29	-30.85	71485.3	-64.46	-67.18

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-03-31T09:56:07.890
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       : 4066632678333003136
2Mass ID (if available) : 18102062-2258495
ICRS Star Coord at Epoch: 18h 10m 20.63433s -22:58:49.74070s
RUWE (>1.4 is poor) : 0.99
K magnitude           : 8.757
G magnitude           : 13.236
RP magnitude          : 12.084
BP magnitude          : 14.649
DUPflag              : 0
Distance (au)        : 5.068
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 9.26
Sun-Target sep (deg) : 97.61
Sun-Moon sep (deg)   : 19.52
B (ring opening deg) : -2.45
PA of pole (deg)     : -1.95
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 17.813
C/A sky separation (km) : 65479.2
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
    
```

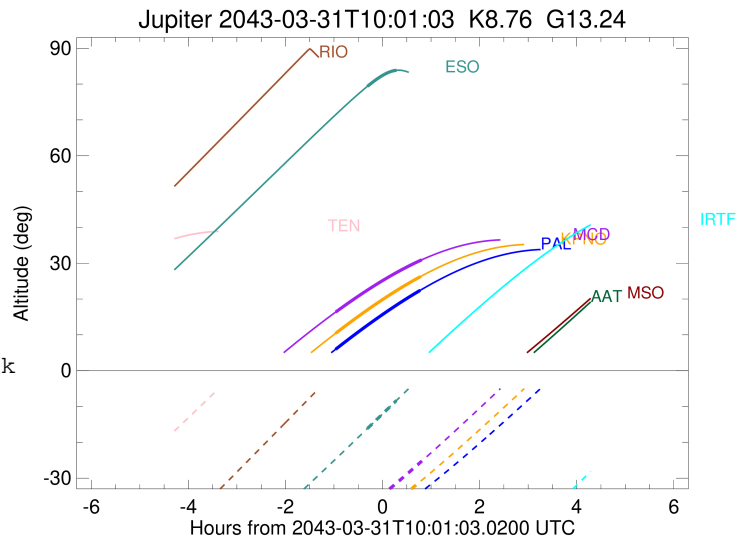
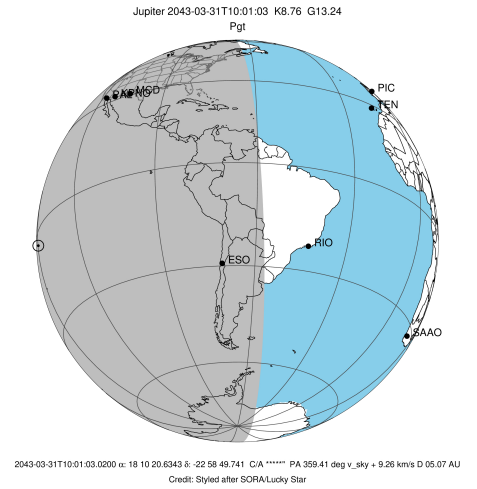


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-03-31T09:03:09.282	16.35	-44.56	71484.9	-68.27	-70.65
Jupiter	E	2043-03-31T10:49:32.590	30.94	-25.25	71485.3	-64.36	-67.09

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-03-31T10:00:14.500
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      : 4066632678333003136
2Mass ID (if available) : 18102062-2258495
ICRS Star Coord at Epoch: 18h 10m 20.63433s -22:58:49.74070s
RUWE (>1.4 is poor) : 0.99
K magnitude          : 8.757
G magnitude          : 13.236
RP magnitude         : 12.084
BP magnitude         : 14.649
DUPflag             : 0
Distance (au)       : 5.068
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 9.26
Sun-Target sep (deg) : 97.61
Sun-Moon sep (deg)  : 19.84
B (ring opening deg) : -2.45
PA of pole (deg)    : -1.95
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 19.272
C/A sky separation (km) : 70841.0
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	2043-03-31T09:42:20.487	79.35	-16.17	71483.9	-83.30	-84.09
Jupiter	E	2043-03-31T10:18:09.686	83.83	-8.35	71484.0	-80.61	-81.70