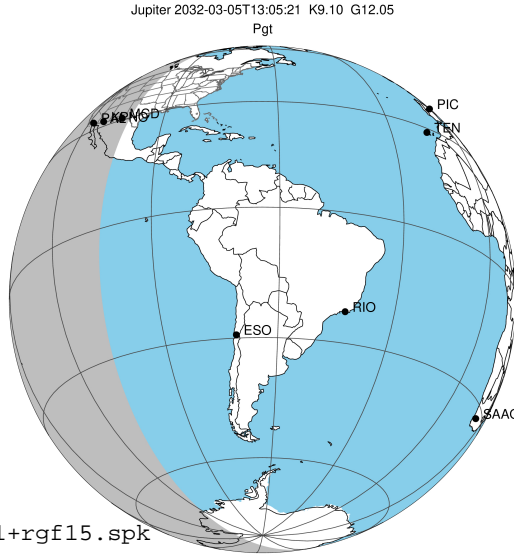


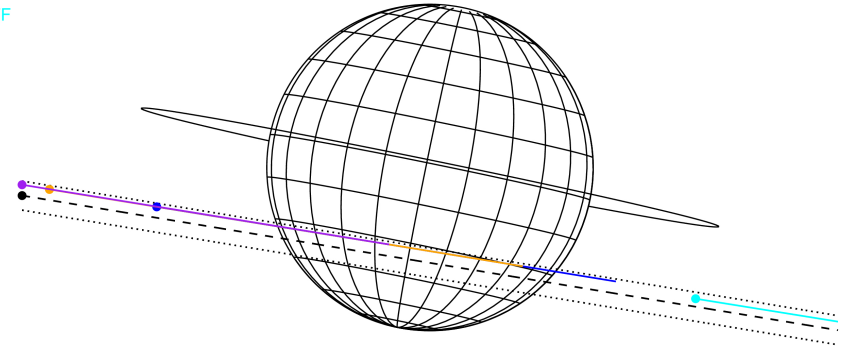
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2032-03-05T13:05:21.500  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 6868035031412788736  
 2Mass ID (if available) : 19431040-2125339

Jupiter 2032-03-05T13:05:21 K9.10 G12.05 Pgt

ICRS Star Coord at Epoch: 19h 43m 10.39059s -21:25:34.08368s  
 RUWE (>1.4 is poor) : 1.12  
 K magnitude : 9.095  
 G magnitude : 12.047  
 RP magnitude : 11.199  
 BP magnitude : 12.809  
 DUPflag : 0  
 Distance (au) : 5.750  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 32.21  
 Sun-Target sep (deg) : 51.18  
 Sun-Moon sep (deg) : 33.01  
 B (ring opening deg) : -1.44  
 PA of pole (deg) : -11.56  
 Pole direction: RA (deg): 268.05671  
 Dec (deg): 64.49653  
 C/A sky separation (") : 9.885  
 C/A sky separation (km) : 41228.4  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk



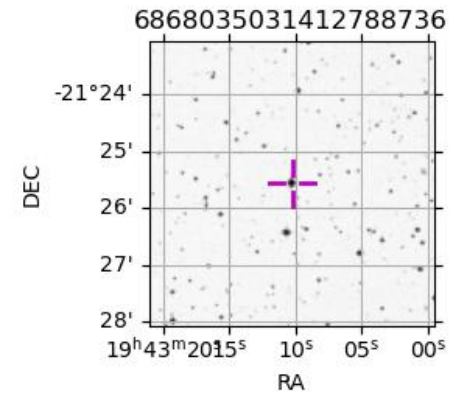
Earth  
 PAL  
 KPNO  
 MCD  
 IRTF



2032-03-05T13:05:21.50000 ex: 19 43 10.3906 s: -21 25 34.084 C/A 9.893° PA 350.63 deg v\_sky +32.21 km/s D 05.75 AU  
 Credit: Styled after SORA/Lucky Star

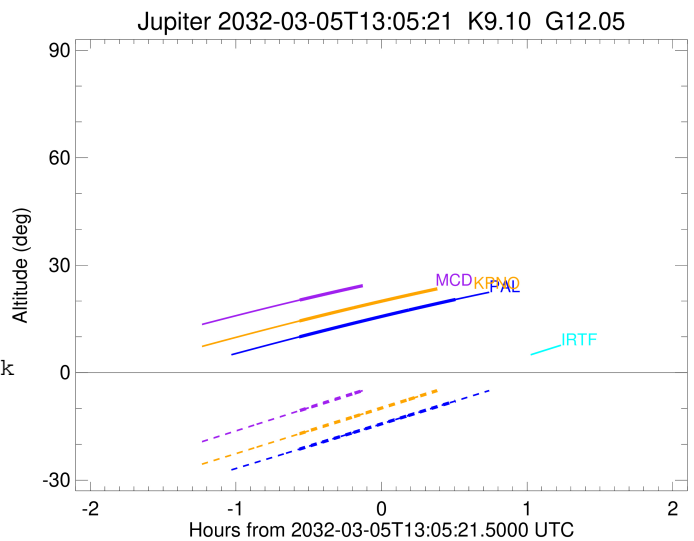
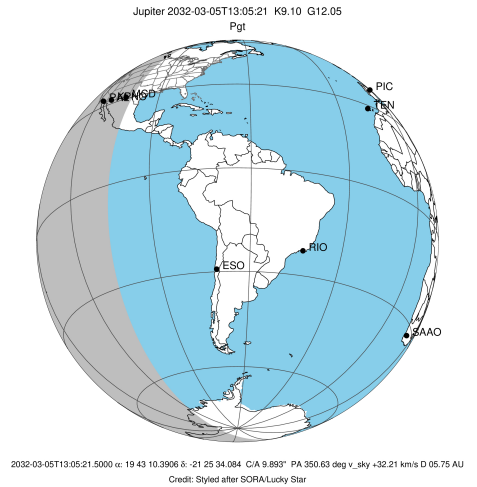
Observable events with sun below -5 deg and altitude above 5 deg

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 05 12:31 - MAR 05 13:35	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	MAR 05 12:31 - MAR 05 12:31	Pin
MCD	McDonald Obs. 2.7m	30.7	256.0	+	MAR 05 12:31 - MAR 05 12:31	Pin
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



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2032-03-05T13:03:35.670
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        : 6868035031412788736
2Mass ID (if available) : 19431040-2125339
ICRS Star Coord at Epoch: 19h 43m 10.39059s -21:25:34.08368s
RUWE (>1.4 is poor) : 1.12
K magnitude           : 9.095
G magnitude           : 12.047
RP magnitude          : 11.199
BP magnitude          : 12.809
DUPflag              : 0
Distance (au)         : 5.750
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 32.21
Sun-Target sep (deg)  : 51.18
Sun-Moon sep (deg)   : 32.65
B (ring opening deg) : -1.44
PA of pole (deg)     : -11.56
Pole direction: RA (deg): 268.05671
Dec (deg): 64.49653
C/A sky separation (" ) : 8.673
C/A sky separation (km) : 36173.0
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
    
```

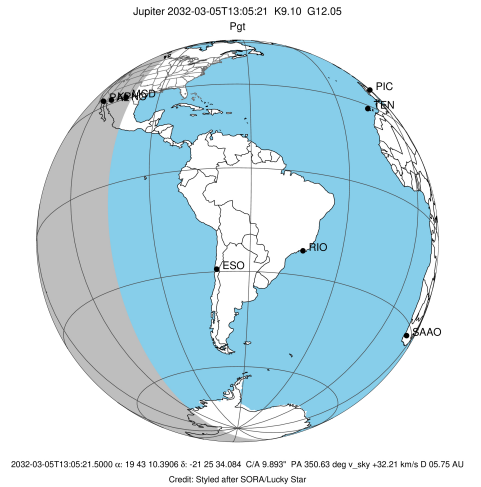


x: target alt < 5.0 deg or sun > -5.0 deg

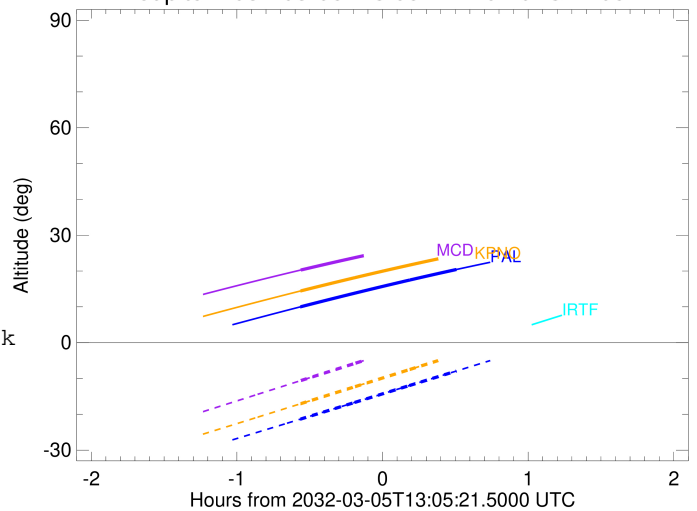
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-03-05T12:31:28.499	9.99	-21.36	71491.2	-32.73	-36.24
Jupiter	E	2032-03-05T13:35:45.848	20.42	-7.92	71491.4	-28.08	-31.33

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2032-03-05T13:03:43.090
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      : 6868035031412788736
2Mass ID (if available) : 19431040-2125339
ICRS Star Coord at Epoch: 19h 43m 10.39059s -21:25:34.08368s
RUWE (>1.4 is poor) : 1.12
K magnitude          : 9.095
G magnitude          : 12.047
RP magnitude         : 11.199
BP magnitude         : 12.809
DUPflag             : 0
Distance (au)       : 5.750
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 32.21
Sun-Target sep (deg) : 51.18
Sun-Moon sep (deg)  : 32.72
B (ring opening deg) : -1.44
PA of pole (deg)    : -11.56
Pole direction: RA (deg): 268.05671
Dec (deg): 64.49653
C/A sky separation (") : 8.674
C/A sky separation (km) : 36176.6
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
    
```



Jupiter 2032-03-05T13:05:21 K9.10 G12.05

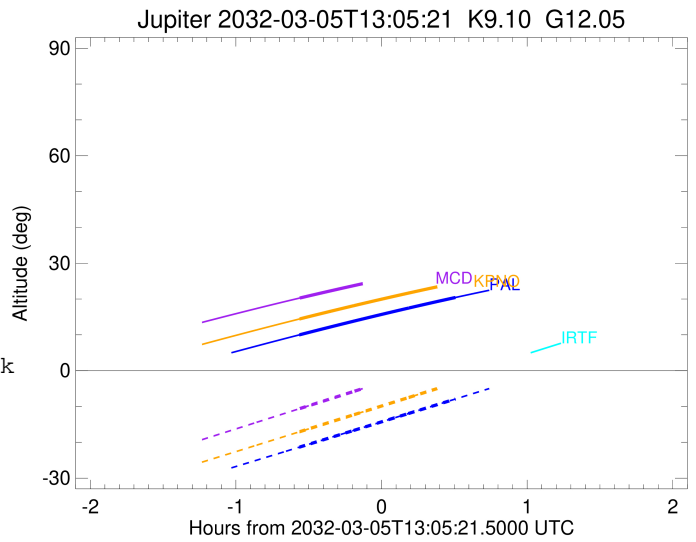
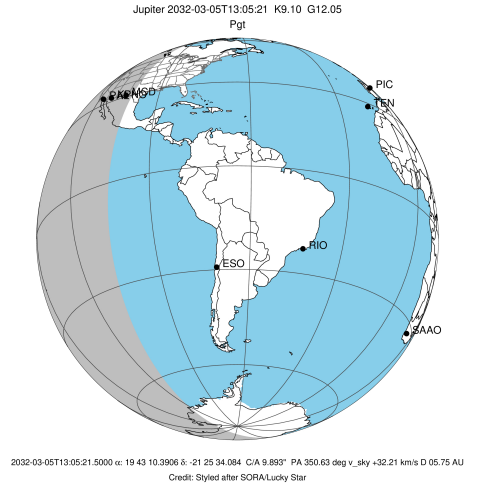


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-03-05T12:31:34.097	14.43	-17.05	71491.2	-32.71	-36.22
Jupiter	E	2032-03-05T13:35:54.933	24.48	-3.38x	71491.4	-28.11	-31.36

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2032-03-05T13:03:57.220
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      : 6868035031412788736
2Mass ID (if available) : 19431040-2125339
ICRS Star Coord at Epoch: 19h 43m 10.39059s -21:25:34.08368s
RUWE (>1.4 is poor) : 1.12
K magnitude          : 9.095
G magnitude          : 12.047
RP magnitude         : 11.199
BP magnitude         : 12.809
DUPflag             : 0
Distance (au)       : 5.750
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 32.21
Sun-Target sep (deg) : 51.18
Sun-Moon sep (deg)  : 32.83
B (ring opening deg) : -1.44
PA of pole (deg)    : -11.56
Pole direction: RA (deg): 268.05671
Dec (deg): 64.49653
C/A sky separation (" ) : 8.672
C/A sky separation (km) : 36165.4
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	2032-03-05T12:31:45.590	20.29	-10.57	71491.2	-32.67	-36.17
Jupiter	E	2032-03-05T13:36:11.412	29.54	3.27x	71491.4	-28.13	-31.39