

target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2035-11-21T21:16:10.650
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 32879593854245632
 2Mass ID (if available) : 02450706+1435177

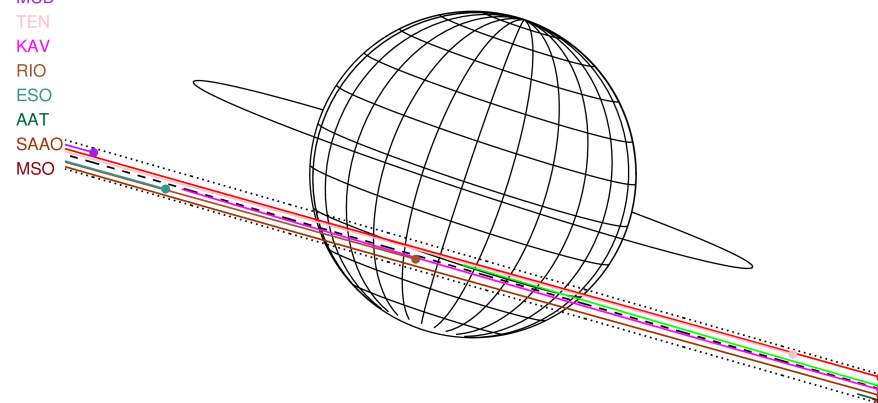
Jupiter 2035-11-21T21:16:10 K8.75 G9.87 Pgt

ICRS Star Coord at Epoch: 02h 45m 07.03386s +14:35:17.64590s

RUWE (>1.4 is poor) : 1.08
 K magnitude : 8.748
 G magnitude : 9.868
 RP magnitude : 9.461
 BP magnitude : 10.115
 DUPflag : 0
 Distance (au) : 4.029
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -15.34
 Sun-Target sep (deg) : 164.39
 Sun-Moon sep (deg) : 101.27
 B (ring opening deg) : 3.33
 PA of pole (deg) : -18.32
 Pole direction: RA (deg): 268.05638
 Dec (deg): 64.49682
 C/A sky separation (") : 14.022
 C/A sky separation (km) : 40971.3
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



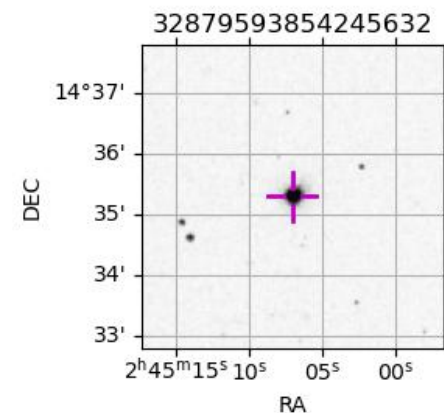
Earth
 PIC
 PMO
 MCD
 TEN
 KAV
 RIO
 ESO
 AAT
 SAAO
 MSO



2035-11-21T21:16:10.6500 a: 02 45 07.0339 s: +14 35 17.646 C/A ***** PA 343.95 deg v_sky -15.34 km/s D 04.03 AU
 Credit: Styled after SORA/Lucky Star

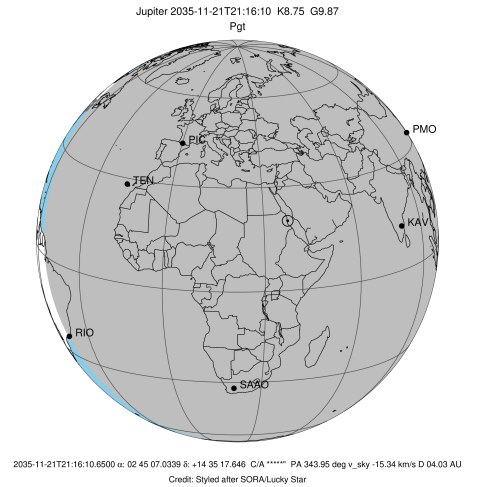
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events	Interval	OCode
PIC	Pic du Midi	42.9	0.1	+ +	NOV 21 20:11 - NOV 21 22:21		Pie
PAL	Palomar Mt (200")	33.4	243.1				Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8	+	NOV 21 20:05 - NOV 21 20:05		Pin
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	+ +	NOV 21 20:14 - NOV 21 22:23		Pie
IRTF	Mauna Kea/IRTF	19.8	204.5				Pnn
KAV	Kavalur Observatory	12.6	78.8	+ +	NOV 21 20:09 - NOV 21 22:12		Pie
RIO	Rio de Janeiro	-22.9	316.8	+	NOV 21 22:23 - NOV 21 22:23		Pne
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	+ +	NOV 21 20:18 - NOV 21 22:15		Pie
MSO	Mt. Stromlo Observatory	-35.3	149.0				Pnn

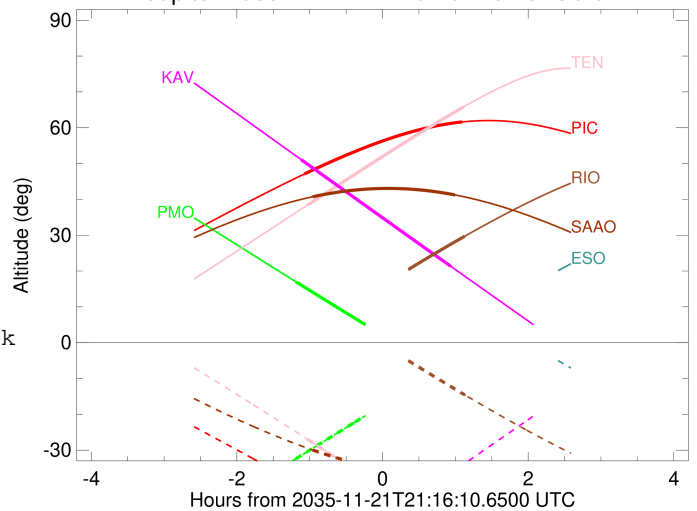


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2035-11-21T21:16:45.800
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : PIC
Location            : Pic du Midi
Latitude (deg)      : 42.93656
E. Longitude (deg)  : 0.14231
Altitude (km)       : 2.890
Gaia source ID      : 32879593854245632
2Mass ID (if available) : 02450706+1435177
ICRS Star Coord at Epoch: 02h 45m 07.03386s +14:35:17.64590s
RUWE (>1.4 is poor) : 1.08
K magnitude          : 8.748
G magnitude          : 9.868
RP magnitude         : 9.461
BP magnitude         : 10.115
DUPflag             : 0
Distance (au)       : 4.029
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.34
Sun-Target sep (deg) : 164.39
Sun-Moon sep (deg)  : 102.04
B (ring opening deg) : 3.33
PA of pole (deg)    : -18.32
Pole direction: RA (deg): 268.05638
Dec (deg): 64.49682
C/A sky separation (") : 12.847
C/A sky separation (km) : 37539.0
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
    
```



Jupiter 2035-11-21T21:16:10 K8.75 G9.87

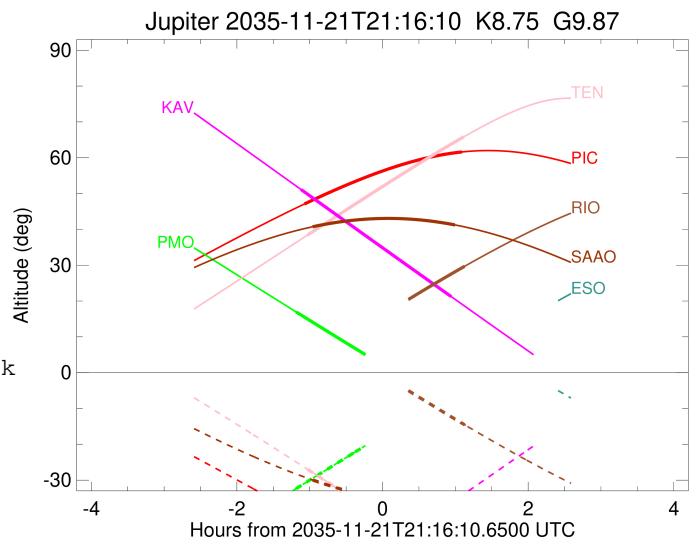
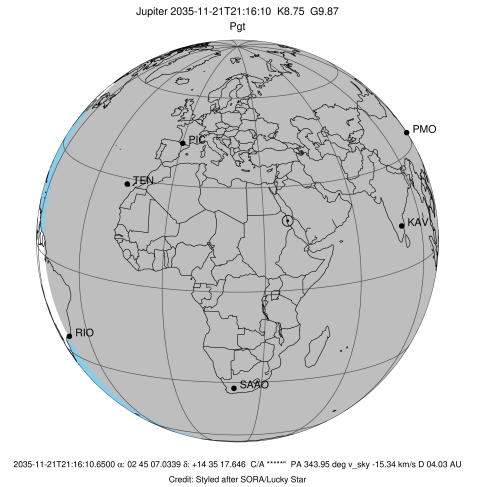


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2035-11-21T20:11:49.758	47.08	-40.09	71488.5	-28.91	-32.21
Jupiter	E	2035-11-21T22:21:33.662	61.60	-61.27	71487.2	-34.28	-37.85

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2035-11-21T21:09:50.180
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : PMO
Location             : Purple Mtn Obs. Nanking
Latitude (deg)       : 32.06667
E. Longitude (deg)   : 118.82089
Altitude (km)        : 0.364
Gaia source ID       : 32879593854245632
2Mass ID (if available) : 02450706+1435177
ICRS Star Coord at Epoch: 02h 45m 07.03386s +14:35:17.64590s
RUWE (>1.4 is poor) : 1.08
K magnitude          : 8.748
G magnitude          : 9.868
RP magnitude         : 9.461
BP magnitude         : 10.115
DUPflag             : 0
Distance (au)        : 4.029
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.34
Sun-Target sep (deg) : 164.39
Sun-Moon sep (deg)   : 101.50
B (ring opening deg) : 3.33
PA of pole (deg)     : -18.32
Pole direction: RA (deg): 268.05638
Dec (deg): 64.49682
C/A sky separation (") : 13.415
C/A sky separation (km) : 39197.7
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
    
```

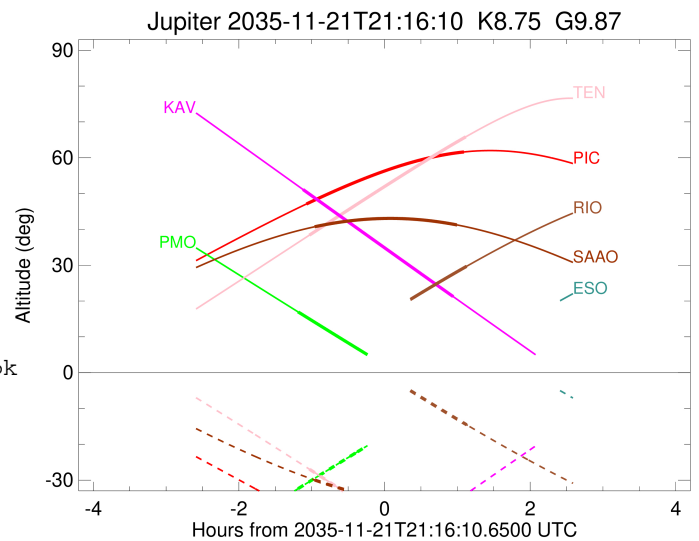
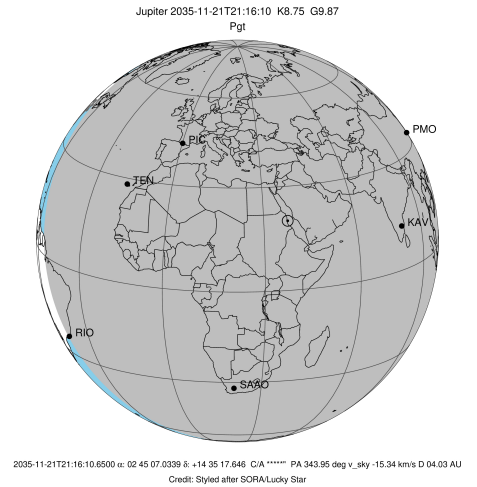


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2035-11-21T20:05:03.960	16.94	-32.35	71487.9	-31.26	-34.70
Jupiter	E	2035-11-21T22:15:04.716	-9.65x	-5.50	71487.0	-35.01	-38.60

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2035-11-21T21:18:51.060
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : TEN
Location            : Teide Obs./Tenerife
Latitude (deg)      : 28.30050
E. Longitude (deg)  : 343.48909
Altitude (km)       : 2.395
Gaia source ID      : 32879593854245632
2Mass ID (if available) : 02450706+1435177
ICRS Star Coord at Epoch: 02h 45m 07.03386s +14:35:17.64590s
RUWE (>1.4 is poor) : 1.08
K magnitude          : 8.748
G magnitude          : 9.868
RP magnitude         : 9.461
BP magnitude         : 10.115
DUPflag             : 0
Distance (au)       : 4.029
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.34
Sun-Target sep (deg) : 164.39
Sun-Moon sep (deg)  : 101.94
B (ring opening deg) : 3.33
PA of pole (deg)    : -18.32
Pole direction: RA (deg): 268.05638
Dec (deg): 64.49682
C/A sky separation (") : 13.113
C/A sky separation (km) : 38317.8
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
    
```

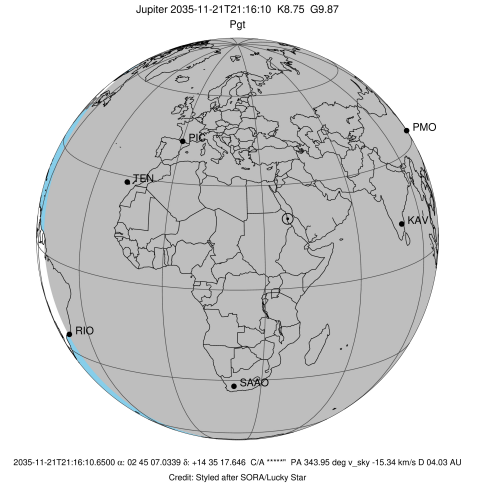


x: target alt < 5.0 deg or sun > -5.0 deg

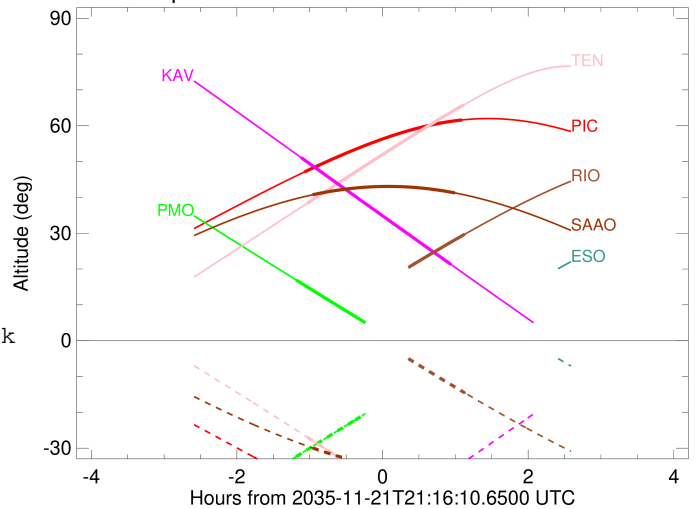
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2035-11-21T20:14:22.319	38.40	-26.96	71488.3	-29.54	-32.88
Jupiter	E	2035-11-21T22:23:03.533	65.81	-55.23	71487.0	-35.15	-38.75

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2035-11-21T21:10:45.050
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : KAV
Location            : Kavalur Observatory
Latitude (deg)      : 12.57556
E. Longitude (deg)  : 78.83167
Altitude (km)       : 0.722
Gaia source ID      : 32879593854245632
2Mass ID (if available) : 02450706+1435177
ICRS Star Coord at Epoch: 02h 45m 07.03386s +14:35:17.64590s
RUWE (>1.4 is poor) : 1.08
K magnitude          : 8.748
G magnitude          : 9.868
RP magnitude         : 9.461
BP magnitude         : 10.115
DUPflag             : 0
Distance (au)       : 4.029
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.34
Sun-Target sep (deg) : 164.39
Sun-Moon sep (deg)  : 101.99
B (ring opening deg) : 3.33
PA of pole (deg)    : -18.32
Pole direction: RA (deg): 268.05638
Dec (deg): 64.49682
C/A sky separation (") : 14.359
C/A sky separation (km) : 41958.0
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
    
```



Jupiter 2035-11-21T21:16:10 K8.75 G9.87

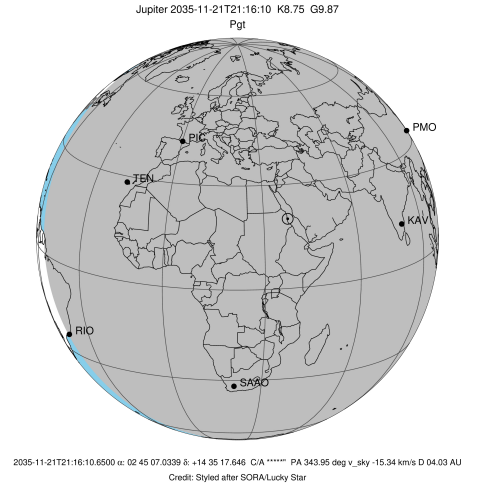


x: target alt < 5.0 deg or sun > -5.0 deg

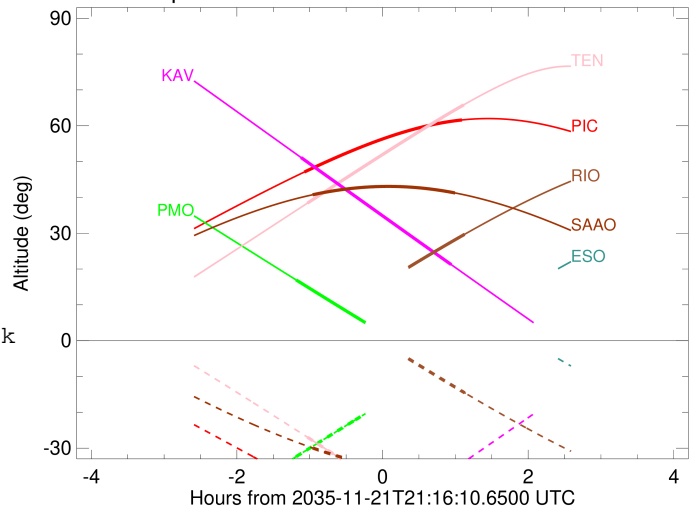
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2035-11-21T20:09:05.911	51.11	-65.21	71487.4	-33.60	-37.15
Jupiter	E	2035-11-21T22:12:47.268	21.23	-36.36	71486.3	-37.97	-41.65

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2035-11-21T21:22:09.440
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       : 32879593854245632
2Mass ID (if available) : 02450706+1435177
ICRS Star Coord at Epoch: 02h 45m 07.03386s +14:35:17.64590s
RUWE (>1.4 is poor) : 1.08
K magnitude           : 8.748
G magnitude           : 9.868
RP magnitude          : 9.461
BP magnitude          : 10.115
DUPflag              : 0
Distance (au)        : 4.029
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.34
Sun-Target sep (deg) : 164.39
Sun-Moon sep (deg)   : 101.36
B (ring opening deg) : 3.33
PA of pole (deg)     : -18.32
Pole direction: RA (deg): 268.05638
Dec (deg): 64.49682
C/A sky separation (") : 14.530
C/A sky separation (km) : 42457.7
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
    
```



Jupiter 2035-11-21T21:16:10 K8.75 G9.87

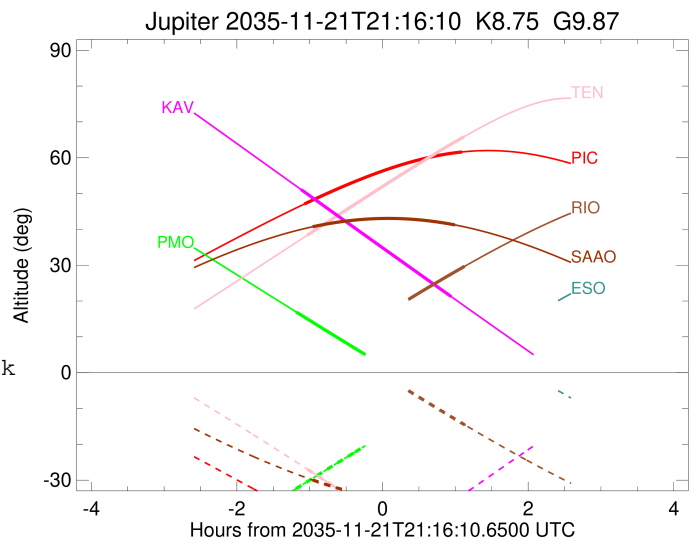
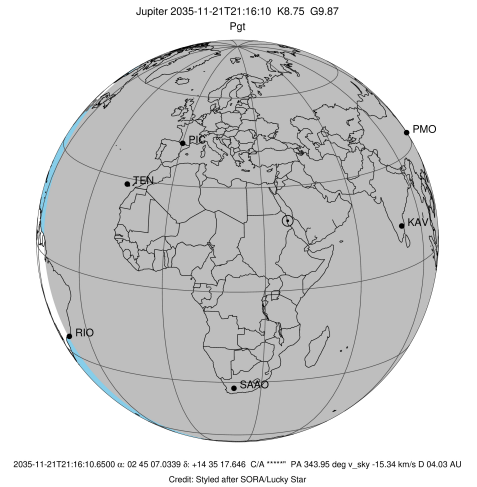


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2035-11-21T20:20:08.135	3.86x	11.68x	71487.4	-33.60	-37.15
Jupiter	E	2035-11-21T22:23:47.958	29.68	-14.53	71486.0	-39.19	-42.88

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2035-11-21T21:17:18.690
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : SAAO
Location              : So. Afr. Astro. Obs. (Sutherland)
Latitude (deg)        : -32.37953
E. Longitude (deg)    : 20.81070
Altitude (km)         : 1.768
Gaia source ID        : 32879593854245632
2Mass ID (if available) : 02450706+1435177
ICRS Star Coord at Epoch: 02h 45m 07.03386s +14:35:17.64590s
RUWE (>1.4 is poor) : 1.08
K magnitude           : 8.748
G magnitude           : 9.868
RP magnitude          : 9.461
BP magnitude          : 10.115
DUPflag              : 0
Distance (au)         : 4.029
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -15.34
Sun-Target sep (deg) : 164.39
Sun-Moon sep (deg)   : 101.88
B (ring opening deg) : 3.33
PA of pole (deg)     : -18.32
Pole direction: RA (deg): 268.05638
Dec (deg): 64.49682
C/A sky separation ("): 15.546
C/A sky separation (km): 45427.2
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	2035-11-21T20:18:44.479	40.73	-29.97	71486.6	-36.68	-40.33
Jupiter	E	2035-11-21T22:15:52.561	41.24	-37.75	71485.2	-41.99	-45.70