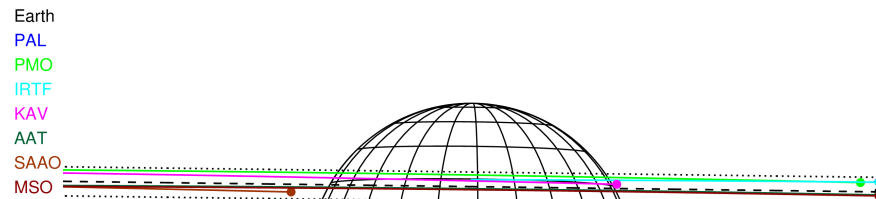


target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-06-07T15:27:36.320  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4069353248056677120  
 2Mass ID (if available) : 17583226-2303440

Jupiter 2043-06-07T15:27:36 K8.09 G11.30 Pgt

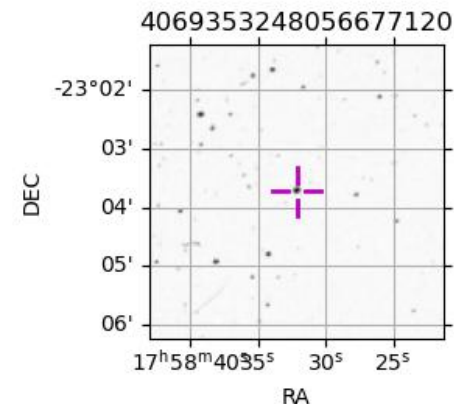
ICRS Star Coord at Epoch: 17h 58m 32.25077s -23:03:44.08555s  
 RUWE (>1.4 is poor) : 0.90  
 K magnitude : 8.087  
 G magnitude : 11.303  
 RP magnitude : 10.377  
 BP magnitude : 12.187  
 DUPflag : 0  
 Distance (au) : 4.279  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : -15.61  
 Sun-Target sep (deg) : 166.53  
 Sun-Moon sep (deg) : 168.21  
 B (ring opening deg) : -2.43  
 PA of pole (deg) : -0.68  
 Pole direction: RA (deg): 268.05668  
 Dec (deg): 64.49732  
 C/A sky separation (") : 11.278  
 C/A sky separation (km) : 34996.6  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk



2043-06-07T15:27:36.3200 a: 17 58 32.2508 & -23 03 44.086 C/A \*\*\*\*\* PA 179.26 deg v\_sky -15.61 km/s D 04.28 AU  
 Credit: Styled after SORA/Lucky Star

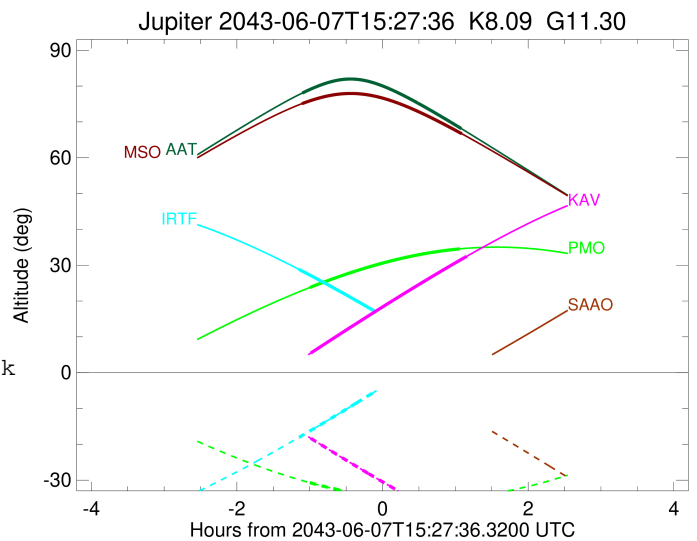
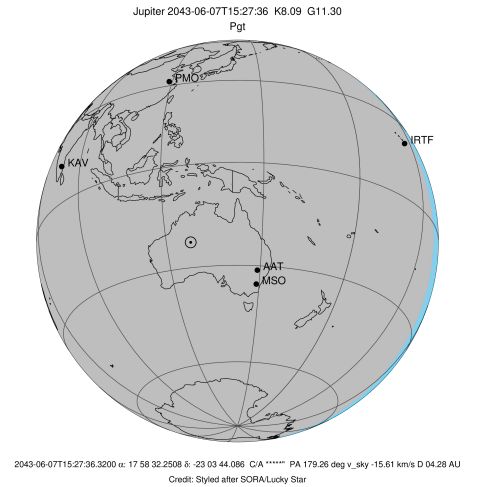
Observable events with sun below -5 deg and altitude above 5 deg

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			Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8	+ +	JUN 07 14:27 - JUN 07 16:31	Pie
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	+	JUN 07 14:18 - JUN 07 14:18	Pin
KAV	Kavalur Observatory	12.6	78.8	+ +	JUN 07 14:28 - JUN 07 16:36	Pie
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	+ +	JUN 07 14:21 - JUN 07 16:32	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	JUN 07 14:21 - JUN 07 16:32	Pie



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-06-07T15:29:37.960
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       : 4069353248056677120
2Mass ID (if available) : 17583226-2303440
ICRS Star Coord at Epoch: 17h 58m 32.25077s -23:03:44.08555s
RUWE (>1.4 is poor) : 0.90
K magnitude           : 8.087
G magnitude           : 11.303
RP magnitude          : 10.377
BP magnitude          : 12.187
DUPflag              : 0
Distance (au)        : 4.279
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.61
Sun-Target sep (deg) : 166.53
Sun-Moon sep (deg)   : 168.33
B (ring opening deg) : -2.43
PA of pole (deg)     : -0.68
Pole direction: RA (deg): 268.05668
Dec (deg): 64.49732
C/A sky separation ("): 12.916
C/A sky separation (km): 40080.5
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
    
```

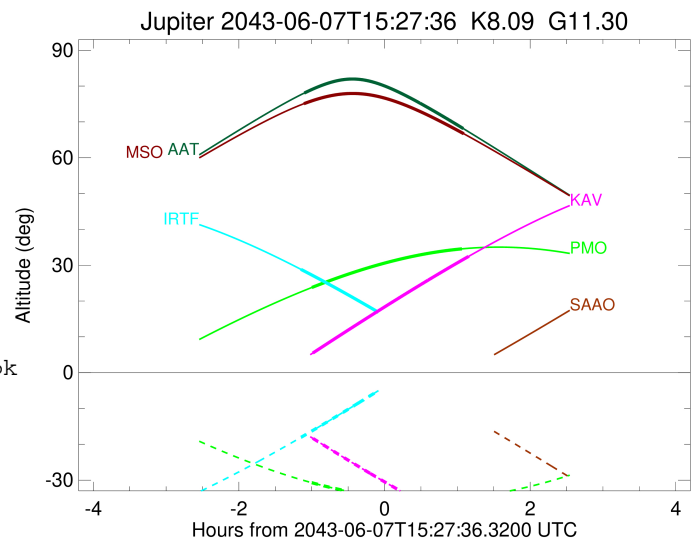
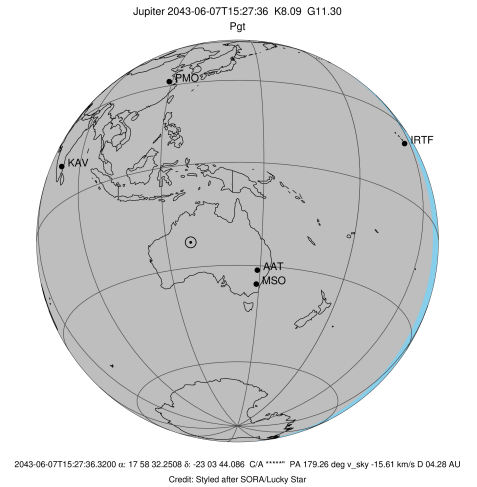


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-06-07T14:27:43.059	23.77	-30.72	71489.5	33.74	37.29
Jupiter	E	2043-06-07T16:31:22.376	34.56	-34.92	71489.4	34.25	37.82

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-06-07T15:22:20.750
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      : 4069353248056677120
2Mass ID (if available) : 17583226-2303440
ICRS Star Coord at Epoch: 17h 58m 32.25077s -23:03:44.08555s
RUWE (>1.4 is poor) : 0.90
K magnitude          : 8.087
G magnitude          : 11.303
RP magnitude         : 10.377
BP magnitude         : 12.187
DUPflag             : 0
Distance (au)       : 4.279
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.61
Sun-Target sep (deg) : 166.53
Sun-Moon sep (deg)  : 169.22
B (ring opening deg) : -2.43
PA of pole (deg)    : -0.68
Pole direction: RA (deg): 268.05668
Dec (deg): 64.49732
C/A sky separation (") : 12.257
C/A sky separation (km) : 38034.2
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
    
```

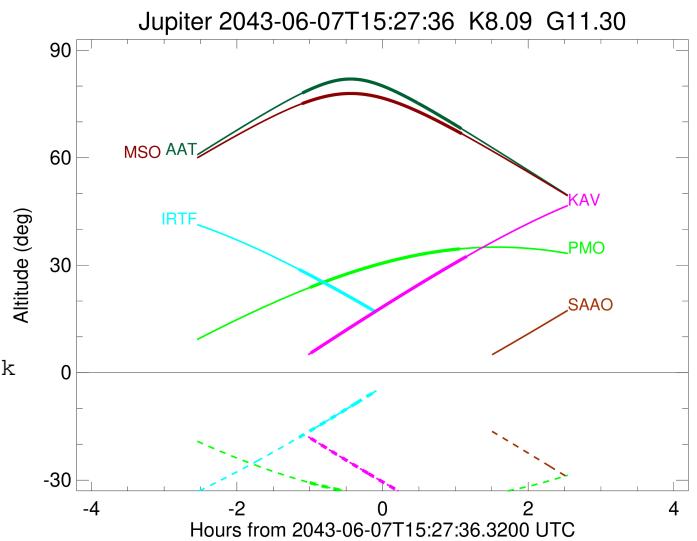
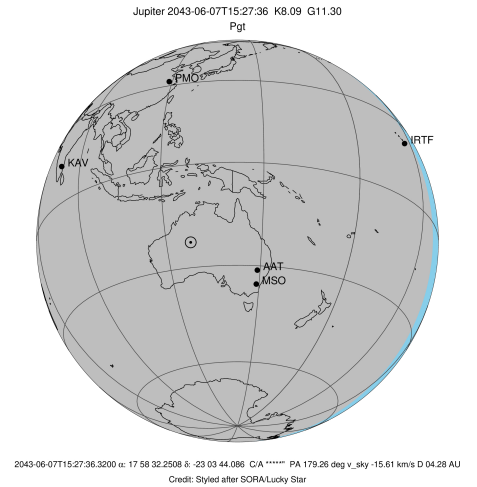


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-06-07T14:18:44.582	28.84	-18.06	71489.7	32.55	36.06
Jupiter	E	2043-06-07T16:26:20.794	3.75x	8.72x	71489.8	31.58	35.04

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-06-07T15:33:03.210
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        : 4069353248056677120
2Mass ID (if available) : 17583226-2303440
ICRS Star Coord at Epoch: 17h 58m 32.25077s -23:03:44.08555s
RUWE (>1.4 is poor) : 0.90
K magnitude           : 8.087
G magnitude           : 11.303
RP magnitude          : 10.377
BP magnitude          : 12.187
DUPflag              : 0
Distance (au)         : 4.279
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -15.61
Sun-Target sep (deg) : 166.53
Sun-Moon sep (deg)   : 167.65
B (ring opening deg) : -2.43
PA of pole (deg)     : -0.68
Pole direction: RA (deg): 268.05668
Dec (deg): 64.49732
C/A sky separation (") : 12.085
C/A sky separation (km) : 37500.1
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
    
```

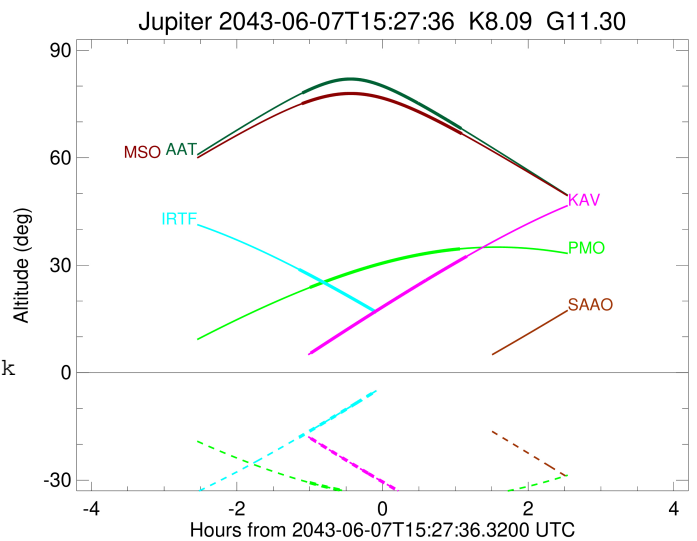
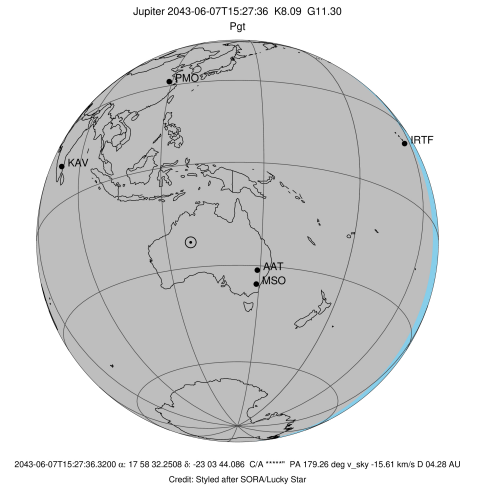


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-06-07T14:28:40.809	5.51	-18.36	71489.9	30.95	34.37
Jupiter	E	2043-06-07T16:36:57.804	32.46	-43.04	71489.7	32.17	35.65

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-06-07T15:27:01.270
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       : 4069353248056677120
2Mass ID (if available) : 17583226-2303440
ICRS Star Coord at Epoch: 17h 58m 32.25077s -23:03:44.08555s
RUWE (>1.4 is poor) : 0.90
K magnitude           : 8.087
G magnitude           : 11.303
RP magnitude         : 10.377
BP magnitude         : 12.187
DUPflag              : 0
Distance (au)        : 4.279
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.61
Sun-Target sep (deg) : 166.53
Sun-Moon sep (deg)   : 168.44
B (ring opening deg) : -2.43
PA of pole (deg)     : -0.68
Pole direction: RA (deg): 268.05668
Dec (deg): 64.49732
C/A sky separation (") : 10.983
C/A sky separation (km) : 34080.7
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
    
```

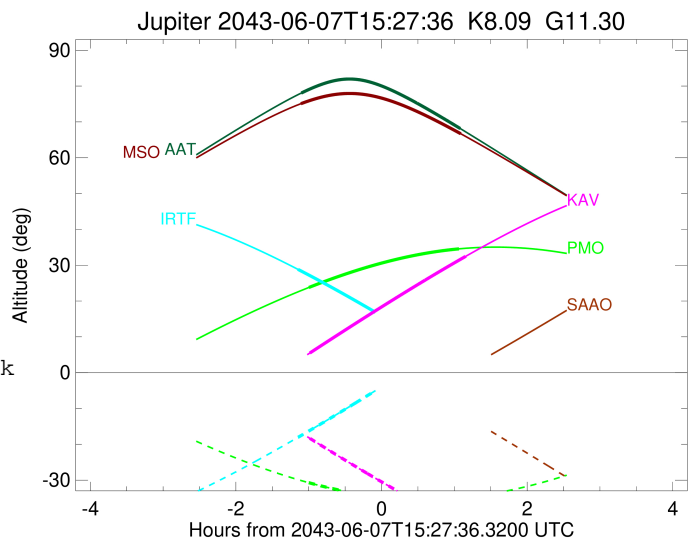
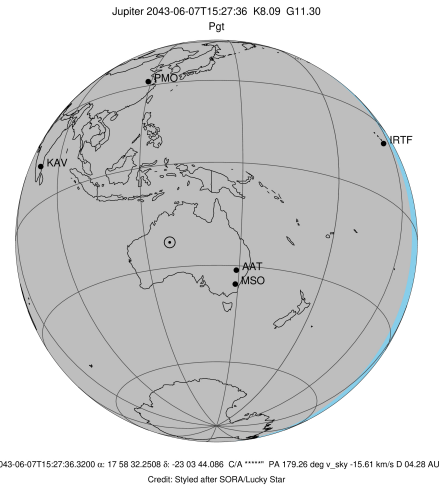


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-06-07T14:21:31.757	78.05	-80.67	71490.2	28.39	31.66
Jupiter	E	2043-06-07T16:32:32.696	68.13	-55.74	71490.2	28.34	31.61

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-06-07T15:27:03.620
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      : 4069353248056677120
2Mass ID (if available) : 17583226-2303440
ICRS Star Coord at Epoch: 17h 58m 32.25077s -23:03:44.08555s
RUWE (>1.4 is poor) : 0.90
K magnitude          : 8.087
G magnitude          : 11.303
RP magnitude         : 10.377
BP magnitude         : 12.187
DUPflag             : 0
Distance (au)       : 4.279
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : -15.61
Sun-Target sep (deg) : 166.53
Sun-Moon sep (deg)  : 168.40
B (ring opening deg) : -2.43
PA of pole (deg)    : -0.68
Pole direction: RA (deg): 268.05668
Dec (deg): 64.49732
C/A sky separation (" ) : 10.841
C/A sky separation (km) : 33640.9
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	2043-06-07T14:21:15.052	75.08	-77.00	71490.2	27.99	31.23
Jupiter	E	2043-06-07T16:32:53.948	66.69	-55.18	71490.2	27.95	31.19