

# Upcoming "GOcEcl" asteroid occultation events

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'Gaia Occultations on the Ecliptic' project

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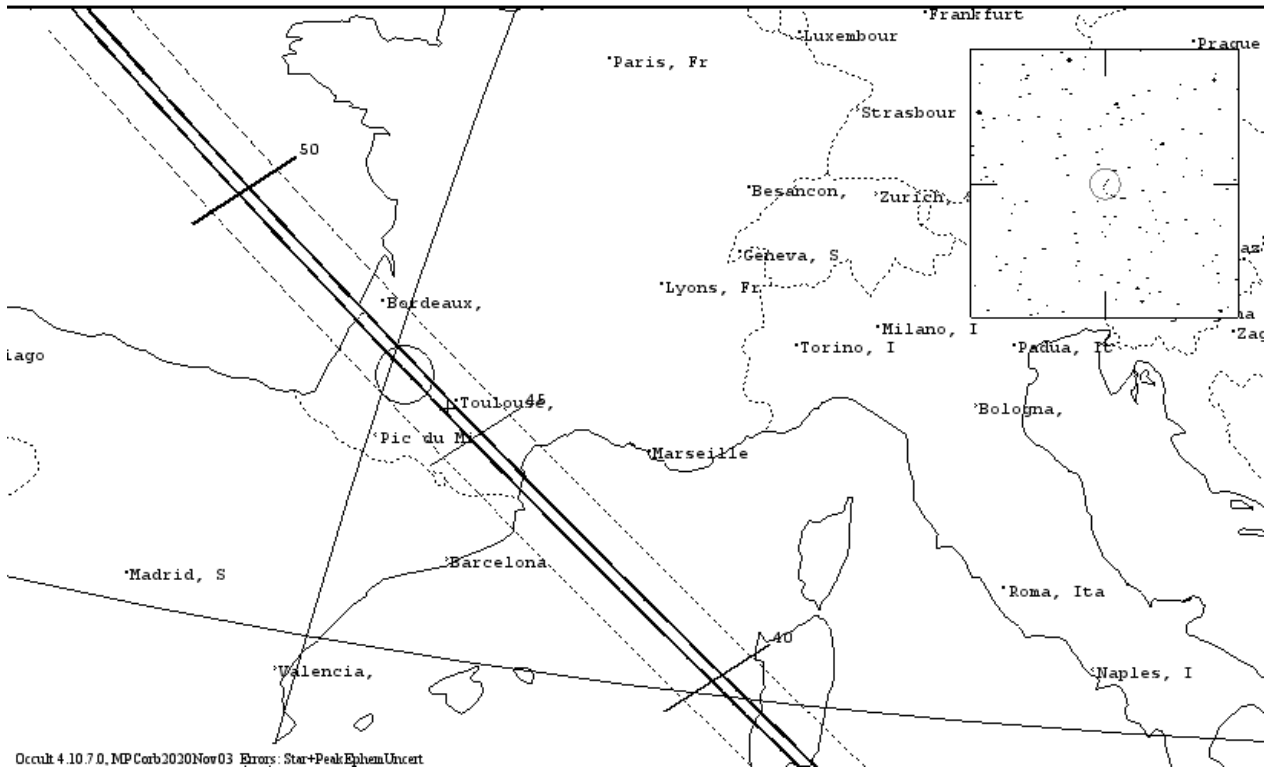
## Definition of Prediction search parameters using OCCULT

- over 20 000 asteroids in the Main Belt (semimajor axis between 2.2 and 3.8 AU); object diameters are limited to the range between 6 and 50 km (large asteroids are too bright to produce a useful magnitude drop).
- A star catalog centred on the ecliptic includes over 5 million stars from the Gaia DR2 catalog, from magnitude 14.0 to magnitude 17.0 (a limit of 16.5 used for these predictions). Fields in the Milky Way are included but with a smaller range in Declination.
- predictions are generated each month, depending on the lunar month. 'AM' events cover roughly the period between New Moon and Full Moon (when the moon is in the evening sky). 'PM' events cover the period after Full Moon. No events are generated for the period near Full Moon. Moon illumination above 60 - 70 % could be difficult to observe if the star is close to the moon.
- Plots attached show occultation paths for some selected upcoming events in Southern Germany and Switzerland. The selected set is not a complete set of events. These paths may also cross other parts of Europe - it is suggested to use the .xlm files in OCCULT with a local geographic filter to look for local events.
- These events are not displayed in OccultWatcher; There are too many events for this system to handle, and not every observer has the capability to observe these events.

UPCOMING EVENTS for November 2020

**3597 Kakkuri occults G074858.8+214835 on 2020 Nov 22 from -23h 50m to 2h 22m UT**

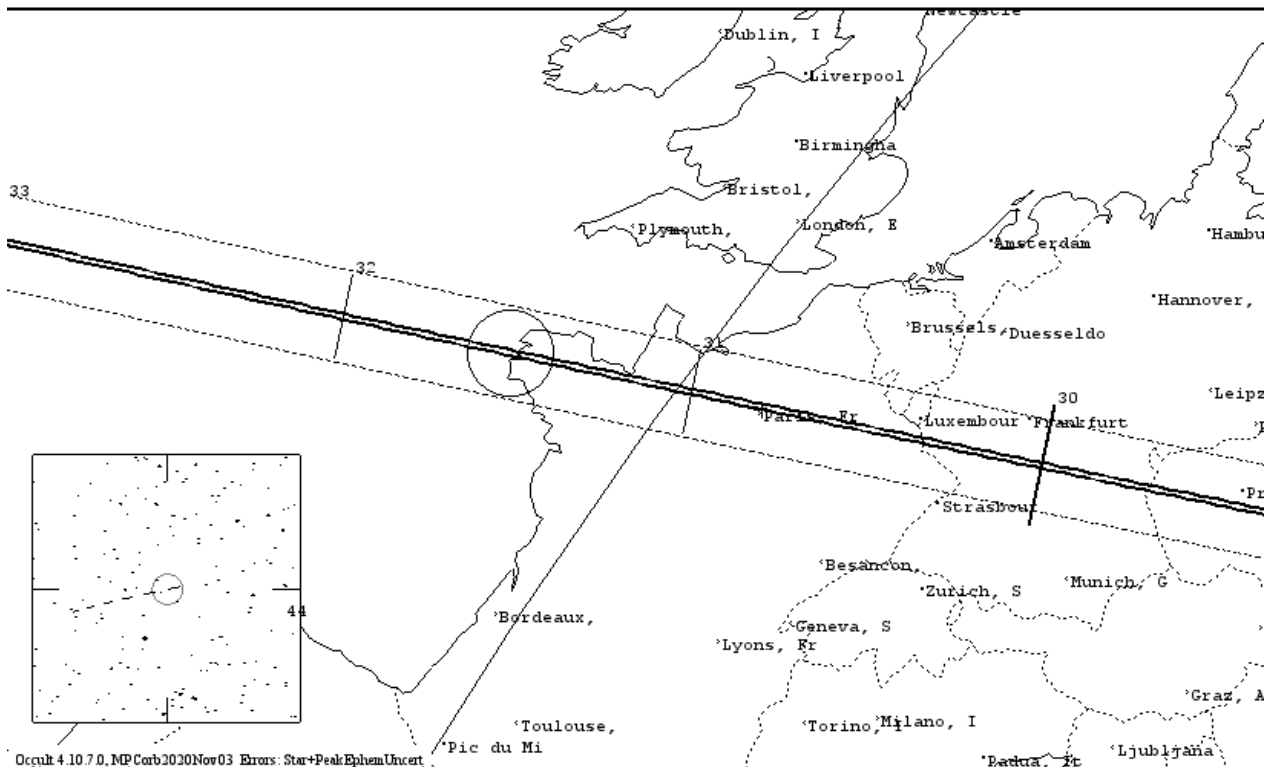
Star:	Max Duration = 12.6 secs	Asteroid:
Mag V = 14.8; B = 15.8; R = 14.3	Mag Drop = 2.2 (2.2r)	Mag = 16.8
RA = 7 48 58.8047 (astrometric)	Sun : Dist = 129°	Dia = 18 ±2km, 0.011"
Dec = 21 48 34.633	Moon: Dist = 147°	Parallax = 4.026"
[of Date: 7 50 13, 21 45 24]	: illum = 48 %	Hourly dRA = -0.123s
Prediction of 2020 Nov 17.0	E 0.027"x 0.027" in PA 90	dDec = 2.67"



Occult 4.10.7.0, MPCorb2020Nov03 Errors: Star+Peak:EphemUncert

**51009 2000 GF103 occults G070903.6+224331 on 2020 Nov 23 from 23h 12m to 23h 35m UT**

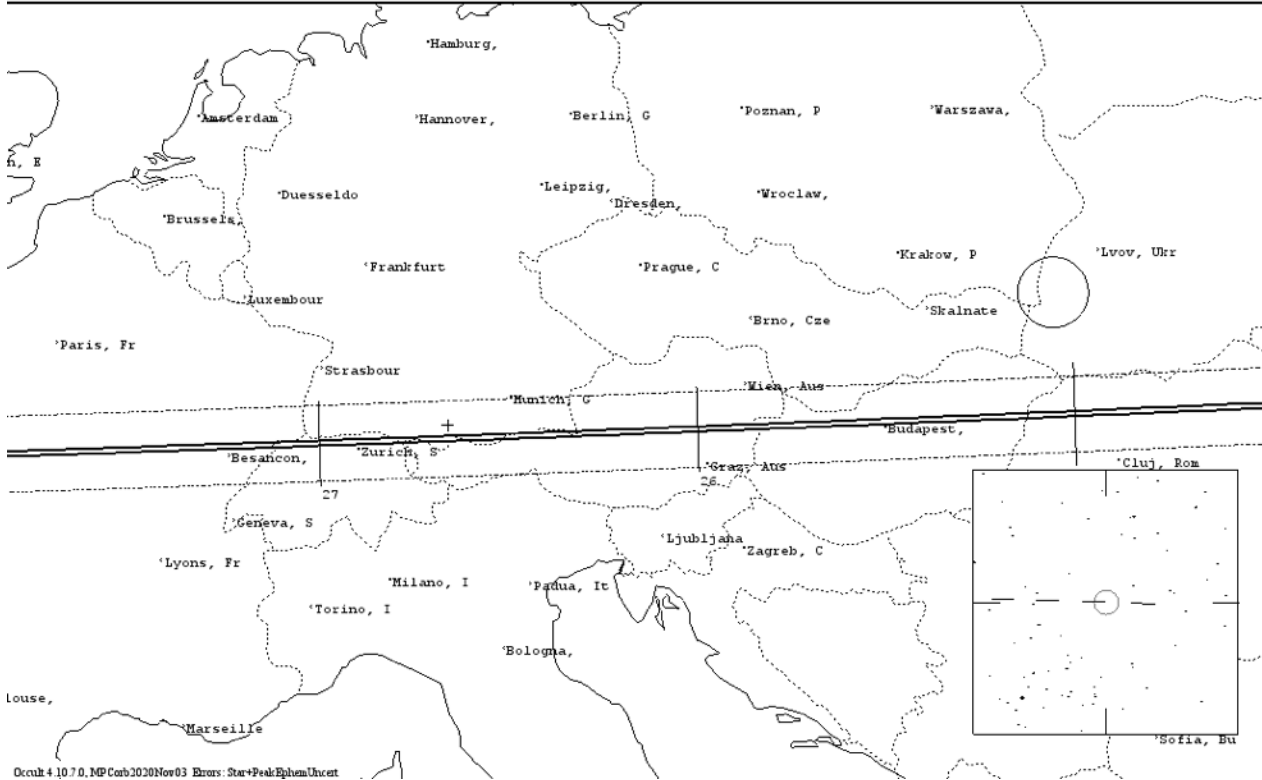
Star:	Max Duration = 1.0 secs	Asteroid:
Mag V = 14.2; B = 15.8; R = 13.4	Mag Drop = 5.5 (5.9r)	Mag = 19.8
RA = 7 9 3.5710 (astrometric)	Sun : Dist = 136°	Dia = 8 ±3km, 0.004"
Dec = 22 43 30.790	Moon: Dist = 114°	Parallax = 2.999"
[of Date: 7 10 19, 22 41 27]	: illum = 67 %	Hourly dRA = -1.016s
Prediction of 2020 Nov 17.0	E 0.030"x 0.030" in PA 90	dDec = 3.03"



Occult 4.10.7.0, MPCorb2020Nov03 Errors: Star+Peak:EphemUncert

**15571 2000 GM61 occults G052543.4+232744 on 2020 Nov 25 from 0h 16m to 0h 37m UT**

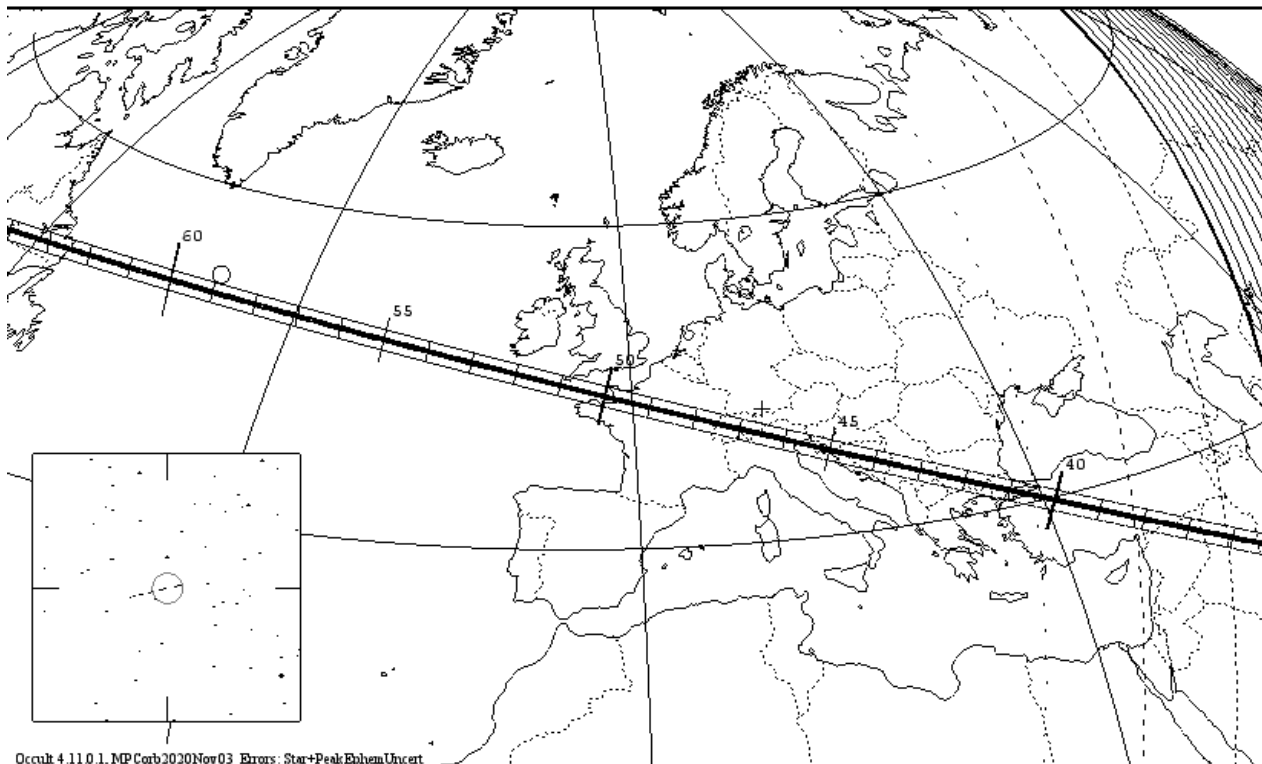
Star:	Max Duration = 0.9 secs	Asteroid:
Mag V = 14.9; B = 16.9; R = 13.9	Mag Drop = 7.9 (3.5r)	Mag = 17.8
RA = 5 25 43.3604 (astrometric)	Sun : Dist = 161"	Dia = 8 ±1km, 0.006"
Dec = 23 27 43.784	Moon: Dist = 78"	Parallax = 5.300"
[of Date: 5 27 0, 23 28 46]	illum = 76 %	Hourly dRA = -1.987s
Prediction of 2020 Nov 18.0	E 0.044"x 0.044" in PA 90	dDec = -0.84"



Occult 4.107.0, MP Corb 2020 Nov 03 Errors: Star+Peak Ephem UTCert

**8128 Nicomachus occults G085657.3+195809 on 2020 Dec 15 from 3h 27m to 4h 10m UT**

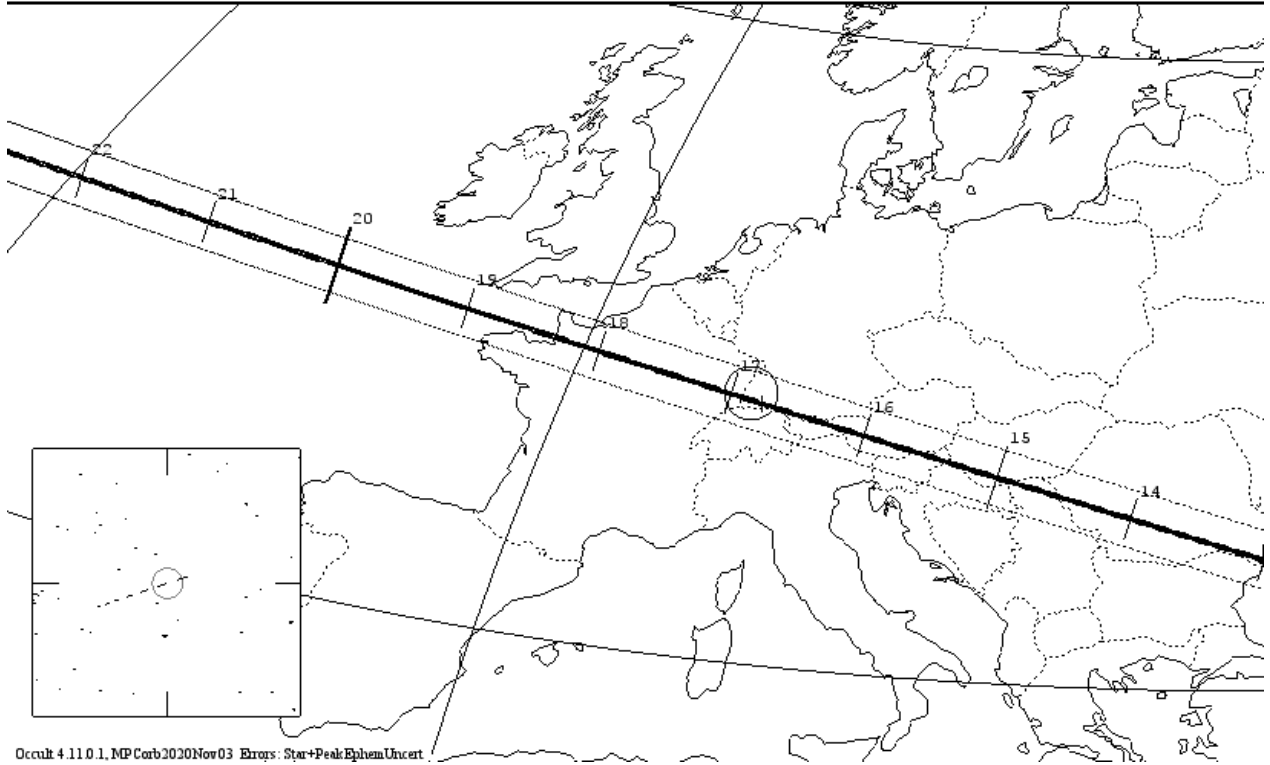
Star:	Max Duration = 3.7 secs	Asteroid:
Mag V = 15.0; B = 16.1; R = 14.4	Mag Drop = 3.0 (3.1r)	Mag = 17.9
RA = 8 56 57.3398 (astrometric)	Sun : Dist = 133"	Dia = 16 ±2km, 0.009"
Dec = 19 58 9.319	Moon: Dist = 139"	Parallax = 3.567"
[of Date: 8 58 9, 19 53 16]	illum = 0 %	Hourly dRA = -0.591s
Prediction of 2020 Nov 21.0	E 0.029"x 0.029" in PA 90	dDec = 2.07"



Occult 4.110.1, MP Corb 2020 Nov 03 Errors: Star+Peak Ephem UTCert

Sunday 22 November 2020

24705 1991 PV4 occults G090140.4+172824 on 2020 Dec 18 from 0h 56m to 1h 25m UT  
Star: Max Duration = 1.2 secs Asteroid: Mag = 20.0  
Mag V = 15.6; B = 16.5; R = 15.1 Mag Drop = 4.5 (4.5r) Dia = 8 ±1km, 0.004"  
RA = 9 140.3947 (astrometric) Sun: Dist = 134° Parallax = 3.134"  
Dec = 17 28 23.699 Moon: Dist = 176° Illum = 14% Hourly dRA = -0.771s  
[of Date: 9 2 51, 17 23 25] E 0.039"x 0.039" in PA 90 dDec = 3.63"  
Prediction of 2020 Nov 21.0



Occult 4110.1.MP Carb2020Nov03 Errors: Star+PeakEphemUncert

27498 2000 GH125 occults G080239.6+163239 on 2020 Dec 22 from 1h 38m to 1h 54m

Star:  
Mag V = 14.9; B = 15.9; R = 14.3  
RA = 8 23 39.6422 (astrometric)  
Dec = 16 32 38.941  
[of Date: 8 3 51, 16 29 5]  
Prediction of 2020 Nov 21.0

Max Duration = 1.1 secs  
Mag Drop = 3.6 (3.7r)  
Sun : Dist = 151°  
Moon: Dist = 117°  
illum = 51 %  
E 0.030"x 0.030" in PA 90

Asteroid:  
Mag = 18.5  
Dia = 12 ±1km, 0.007"  
Parallax = 3.582"  
Hourly dRA = -1.526s  
dDec = 7.25"

