

Geminid meteor shower 2011

December 7 2011, By Adrian West



Credit: Wally Pacholka

Its the finale of this year's meteor showers: The Geminids will start appearing on Dec. 7 and should reach peak activity around the 13th and 14th. This shower could put on a display of up to 100+ meteors (shooting stars) per hour under good viewing conditions.

However, conditions this year are not ideal with the presence of a waning gibbous Moon (which will be up from mid-evening until morning). But seeing meteors every few minutes is quite possible.

Geminid meteors are often slow and bright with persistent colored trails which can linger for a while after the meteor has burned up.

There is something unusual about the Geminid meteor shower, as normally meteor showers are caused by the Earth ploughing through the debris streams created by comets and their tails. But the object that created the specific stream of debris associated with the Geminids is not a dusty icy comet, but a rocky asteroid called Phaethon 3200.

Phaethon 3200 belongs to a group of asteroids whose orbit cross the Earth's. It turns out to be an unusual member of that group: Not only does it pass closer to the Sun than the others but it also has a different color, suggesting a different composition to most asteroids.



Credit: Adrian West

One of the curious things about the Geminid particles is that they are more solid than meteoroids known to come from comets. This is good for meteor watchers; giving us brighter meteors.

Observations by astronomers over decades have shown that meteor rates have increased as we reach denser parts of the stream.

It is not known exactly when the asteroid was deflected into its current orbit, but if it was originally a comet it would have taken a long time for all the ices to have been lost. However it is possible that it may have been a stony asteroid with pockets of ice.

We are unsure of the origins and appearance of Phaethon 3200, but its orbit has left us with a unique legacy every December, with little streaks of light known as the [Geminid meteor shower](#).

You will only need your eyes to watch the meteor shower, you do not need telescopes binoculars etc, but you will need to be patient and comfortable. See this handy guide on how to [observe meteors](#).

During a [meteor shower](#), meteors originate from a point in the sky called the radiant and this gives rise to the showers name e.g. The Geminids radiant is in Gemini, Perseids radiant is in Perseus etc.

Don't be misled by thinking you have to look in a particular part of or direction of the sky, as meteors will appear anywhere and will do so at random. You will notice that if you trace back their path or trajectory it will bring you to the meteor showers radiant. The exception to this rule is when you see a sporadic or rogue meteor.

Tell your friends, tell your family and tell everyone to look up and join in with the Geminid meteorwatch on the 12th to the 14th December 2011. Use the #meteorwatch hashtag on twitter and visit meteorwatch.org for tips and guides on how to see and enjoy the Geminids and other meteor showers.

Source: [Universe Today](#)

Citation: Geminid meteor shower 2011 (2011, December 7) retrieved 24 April 2024 from

<https://phys.org/news/2011-12-geminid-meteor-shower.html>

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