

## **The Street Astronomer's Guide to Winter Meteor Showers**

Most meteor showers are best viewed after midnight. Normally, meteor showers have their highest rates on the morning on the day indicated. However, the Geminids are an exception since the constellation is well up before midnight. Don't worry if you can't see one of these showers on the day recommended. Meteor shows display heightened activity for several days before and after their peak. The Quadrantids however, are known for their narrow peak, so those you do want to observe on the peak morning. On a night when there is no active meteor shower, you expect to see an average of 7 meteors per hour.

The Geminid meteor shower reaches its peak on the night of Tuesday, December 13<sup>th</sup> and morning of Wednesday, December 14<sup>th</sup>. The meteor shower is consistently good and you can expect to see at least 50 meteors per hour except in 2011. The moon is just past full and its light will wash out many of the fainter meteors. The only thing keeping this shower from being as popular as the Perseids is that the Geminids take place near winter. Meteors from the Geminids appear to radiate near the star Castor. Castor is the fainter of the two top stars of Gemini. This year, the meteor shower occurs on the first quarter moon, which will set by midnight leaving darker skies for the rest of the night.

The Ursid meteor shower peaks on the night of December 22 and morning of the 23<sup>rd</sup>. The shower is well placed for viewing all night since meteors appear to originate near the North Star. The shower is weak, there aren't many meteors per hour, but at least the moon is near new this year.

The Quadrantid meteor shower reaches its peak on the night of January 3<sup>rd</sup>. The moon is first quarter and sets around midnight.