

UNH Professor: This Weekend's Leonid Meteor Showers Could Produce a Nice Light Show

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DURHAM, N.H. -- Astronomers are predicting a modest outburst of meteor showers this weekend, as Earth is heading for a minefield of cosmic dust streams laid down by the comet Tempel-Tuttle.

Europeans and North Americans will have the best chance to spot Leonids activity this year, says Eberhard Moebius, professor of space physics in the University of New Hampshire's Institute for the Study of Earth, Oceans, and Space, with brief flurries of shooting stars occurring between midnight and dawn on Friday, Nov. 17, and Saturday, Nov. 18. Peak activity is expected for 3 a.m. Nov. 18.

"Viewers are likely to see 100 meteors per hour," says Moebius. "While small meteors will be washed out by the waning half moon, which will be practically on top of the Leonids' radiant, the larger, brighter ones should still be visible."

The Leonid meteor showers -- so named because they come from a point in the constellation Leo -- occur every November as the Earth passes through the orbit of comet Temple-Tuttle. The storms consist of particles traveling at speeds over 150,000 miles per hour that collide with Earth's atmosphere.

Comets, according to Moebius, are "dirty snow balls" that heat up when they come close to the sun, spewing out volatile materials such as water vapor and other gases which "take dust and larger pieces along." Visible is the glowing gas ball that surrounds the comet nucleus when the comet is close to the sun. The cloud of debris stays in the comet's orbit until it is "scooped up by a planet," which leads to meteor showers.

"The Temple-Tuttle comet has been part of our solar system since its beginning," says Moebius, explaining that it was leftover material from the formation of the planets.

Earth is now heading for encounters with two dust streams, one that was set loose in 1733 and another in

1866.

To view the Leonids, Moebius says look for Leo 45 degrees above the horizon in the southeast. Finding Leo will be easy because the waning quarter moon will lie inside the boundaries of the constellation.

"Although meteors will stream from the general direction of Leo, they can appear anywhere overhead," he says. "Because of the moon, they may be easiest to spot about 90 degrees from the shower's radiant. This point is located in the western portion of the constellation, which appears to be the backwards question mark, sometimes called the 'sickle.' "

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