

The 2016 Perseids

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The Perseid meteor shower has been observed since ancient times. One of the most prolific annual showers, the Perseids have also been known to outburst. At least two spacecraft have suffered anomalies potentially caused by meteoroid impacts during Perseid outbursts. Olympus, an ESA telecommunications satellite, was likely impacted by a Perseid meteoroid during the 1993 outburst that ultimately led to the termination of the spacecraft's mission [1]. Landsat-5, an imaging satellite jointly managed by NASA and the USGS, lost gyro stability during the peak of the Perseids in 2009 [2].

The Perseid meteor shower is expected to outburst again in 2016. Stream model predictions place the peak activity on the night of August 11-12 (UT) as the Earth passes through several old debris trails from parent comet 109P/Swift-Tuttle. Observing geometry favors Europe at the onset, but increased activity for about half a day means that North America is also well-placed for observations. A call for observations to characterize the stream and constrain numerical models is made. Modeling results, observing geometry, and spacecraft risk during the 2016 Perseids will be discussed.

[1] Caswell, D.R. et al. (1995) *Int. J. of Impact Eng.* 17, 139-150.

[2] Cooke, W. J. (2009) NASA MSFC: *NASA MEO Internal Report*, 5pp.