

Semimajor axes of the orbits and ejection velocities of Perseid meteoroids

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Abstract

Photographic orbits of meteors are combined with modeling of the ejection of Perseids during the perihelion passage of comet Swift-Tuttle in 1862 to analyze the most likely ejection velocities of particles from the comet nucleus. Given the scatter of the semimajor axes of observed Perseids with masses greater than 10^{-4} g, the most likely interval of ejection velocities spans 0 to 300 m/s for particles ejected in the plane of the comet orbit in the retrograde direction and in the direction of the comet's anomalous tail. © 2005 Pleiades Publishing, Inc.

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