

The mass of the Geminid meteoroid stream

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To obtain the total mass of a meteoroid stream we need to know the value of the incident flux rate at some point inside the stream, say, registered at the Earth, and a hypothesis about mass distribution in the stream. The earlier mass estimation for the Geminid meteoroid stream was made by Hughes and McBride [1], under the assumption that the stream model is very simple (ribbon-like) and the same for several considered streams.

The Geminid meteoroid stream model obtained relatively recently [2] explains the Geminid's complicated structure quite well. The stream has two layers, and anisotropic dispersion. Its shape resembles rather see-shell than a ribbon. To obtain an estimation of the Geminid meteoroid stream mass we updated Hughes & McBride method. The new approach allows us to find a relation between the total amount of particles in the model stream, amount of model particles 'registered' at the Earth, and amount of particles observed during, say, radar observations.

On the moment of this abstract presenting, the study is not finished yet.

References

- [1] Hughes, D.W. and McBride, N., *MNRAS*, 240, 73–79, 1989.
- [2] Ryabova, G.O., *MNRAS*, 375, 1171–1180, 2007.