

Could the Geminid meteoroid stream be the result of long-term thermal fracture?

Galina Ryabova

Tomsk State University, Kievskaya str. 109/6-62, 634034 Tomsk, Russia
rgo@rambler.ru

The previous models by Ryabova have shown that the Geminid meteoroid stream has a cometary origin, so asteroid (3200) Phaethon (the Geminids' parent body) is probably a dead comet. Recently (in 2009 and 2012) some weak activity was observed (Jewitt and Li, 2010, 2013), but it was not a cometary activity. Recurrent brightening of Phaethon at perihelion could be the result of thermal fracture and decomposition. In this study we model the long term dust release from Phaethon based on this mechanism. It is unlikely that the Geminid meteoroid stream (or its low-active wide component) was generated by long-time thermal fracture.

Note from the editors

No paper has been submitted for the IMC Proceedings as the topic has been submitted for publication elsewhere (MNRAS). Please contact the author if you want more information about this topic.

References

- Jewitt D. and Li J. (2010). "Activity in Geminid Parent (3200) Phaethon". *Astronomical Journal*, **140**, 1519–1527.
- Li J. and Jewitt D. (2013). "Recurrent Perihelion Activity in (3200) Phaethon". *Astronomical Journal*, **145**, article id. 154, 9 pp.



The author Galina Ryabova giving her summary as session chairman with Felix Bettonvil at left and at right Ana Georgescu and Christoph Niederhametner (Photo by Axel Haas).