

On how to report new meteor showers

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New meteor showers should first be reported to the International Astronomical Union before they are discussed in the scientific literature (which includes WGN). The IAU keeps a tally of reported showers, and will officially name those showers that are established. The first batch of showers is up for official naming at the upcoming IAU General Assembly in Rio de Janeiro, Brazil, on 2009 August 3–14.

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1 Introduction

The literature on meteor showers is enormous and hard to comprehend due to a general lack of effort made to compare results with those of previous workers in the field. Numerous showers are known under several names. It is not always clear which showers are established, and which are not (Jenniskens 2006).

To solve this problem, a Task Group on Meteor Shower Nomenclature was established at the 2006 IAU General Assembly in Prague, with the objective to formulate a descriptive list of established meteor showers that can receive official names during the next IAU General Assembly in Rio de Janeiro, on 2009 August 3–14. Its task aims to uniquely identify all existing meteor showers and establish unique names for each shower.

The 27th Assembly in Rio is now only months away. Before the meeting, the Task Group will convene at Prague, during the International Conference on Bolides and Meteorite Falls (May 10–15) in an effort to finalise the List of Established Showers to be presented for a vote at the IAU General Assembly. This paper describes how you can help the Task Group work through-out this process.

2 Reporting new showers

The Task Group works from a Working List of meteor showers, which is posted at the IAU Meteor Data Center website: <http://www.astro.amu.edu.pl/~jopek/MDC2007>. The total number of showers in the list is 276. To help compare your newly discovered shower with those already in the list, the MDC has developed recently a tool to interactively search this database.

The Working List can be extended to include newly discovered showers. Since the foundation of the Group, 13 new showers were added, twelve from the work of the Canadian Meteor Orbit Radar by Peter Brown and coworkers of the University of Western Ontario, and one new shower first reported in WGN (Uehara et al., 2006) that was discussed in a paper for the Meteoroids 2007 conference. Once (a batch of) new showers are reported, the astronomical community is alerted by means of a CBET telegram from the IAU Central Bureau for Astronomical Telegrams.

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To arrive at a unique name for each shower, a system of nomenclature rules was adopted based on traditional ways of naming meteor showers:

<http://www.astro.amu.edu.pl/~jopek/MDC2007/>

[Dokumenty/shower_nomenclature.php](#)

The point of contact for reporting the discovery of new meteor showers is Dr. Tadeusz J. Jopek of Poznan University, Poland (jopek@amu.edu.pl). The Working List of meteor showers should include all showers that are discussed in the literature from now on. Tentative detections should not be given a name. Whenever a shower detection is deemed certain enough to give it a name, it should first be registered by the Meteor Data Center, before publication. The IAU number can then be mentioned in the publication.

In order to bring transparency to the literature, a new meteor shower should not be discussed in WGN, or any other journal, without first having been reported to the Meteor Data Center. Upon contacting Dr. Jopek, the shower will receive a tentative name (which you may propose based on the nomenclature rules), an IAU number, and a 3-letter code. That number (or code) should be mentioned in your paper, e.g. the ‘October Ursae Majorids (IAU#333)’ (Uehara et al., 2006). This will then provide a unique identification for later discussions of the stream.

Before reporting to the MDC, amateur astronomers that recognize new meteor showers from visual and single-station video observations should contact the International Meteor Organization and present their claim for referral. Point of contact is Task Group member Jürgen Rendtel (jrendtel@aip.de). Observations should strongly suggest a shower. For example, an outbursts of a significant number of meteors from a compact radiant in a brief period of time (e.g., beta Hydrids) should be observed; or a persistent radiant detected over several nights whose coordinates change at a rate consistent with the Earth’s motion.

3 Towards establishing showers

New studies of meteor showers may help establish (or disprove) meteor showers in the Working List. You can help the Task Group in deciding whether or not to move streams to the List of Established Showers by sending a copy of your report to the Meteor Data Center (Jopek).

From the Working List, showers are transferred to the List of Established Showers. The current list contains 56 of the total 276 of all showers and is posted at:

http://www.astro.amu.edu.pl/~jopek/MDC2007/Roje/roje_lista.php?corobic_roje=1&sort_roje=0.

These are the showers that will be put to a vote of confidence the IAU Commission 22 business meeting in Rio, after which they will receive their official name.

If you are a professional astronomer and member of the IAU and are interested in serving on the Task Group in the next three years, please contact the current chair (P. Jenniskens: pjenniskens@mail.arc.nasa.gov).

References

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