

COMMISSION F1

METEORS, METEORITES AND INTERPLANETARY DUST

*MÉTÉORES, MÉTÉORITES ET
POUSSIÈRE INTERPLANÉTAIRE*

PRESIDENT

Jiří Borovička

VICE-PRESIDENT

Diego Janches

ORGANIZING COMMITTEE

David J. Asher,
Margaret D. Campbell-Brown,
Petrus Matheus Marie Jenniskens,
Galina O. Ryabova,
Jèrèmie J. Vaubaillon

SECRETARY

Pavel Koten

COMMISSION F1 WORKING GROUPS

Commission F1 WG

Meteor Shower Nomenclature

TRIENNIAL REPORT 2015-2018

Commission F1 (C.F1) is a direct successor of the former Commission 22, which had the same name. During its first triennium, C.F1 not only continued the activities of Commission 22 but also started new projects. Currently C.F1 has 143 members. The Organizing Committee (OC) has 7 members plus the Secretary nominated by the OC. From the seven OC members, four are original proposers of the Commission and three have been elected by the members.

1. Conferences

The main and traditional activity of the Commission has been co-organizing the Meteoroids Conferences. The first Meteoroids conference was held in 1992. The ninth conference of the series was held at ESA Estec in Noordwijk, the Netherlands, from June 6–10, 2016. The site was selected by the previous OC of Commission 22. The chair of the local organizing committee was Detlef Koschny from ESA. The chairman of the Scientific Organizing Committee (SOC) was the President of C.F1 Jiří Borovička. The SOC had 18 members and was nominated by the OC. The conference had 128 participants and was very successful. The proceedings were published in 2017 as a Special Issue of the journal Planetary and Space Science. The Guest Editors (J. Borovička, D. Janches, D. Koschny, and I. Williams) were nominated by the OC.

The OC met twice during the conference and a plenary business meeting of C.F1 (open to all participants) was held. The main topics were:

- Lecture by I. Williams: The History of Commission 22 and its contribution to the development of Meteor Science
- Report of the Working Group on Meteor Shower Nomenclature and the current status of the IAU Meteor Data Center

- Definitions of terms related to meteor astronomy
- The Meteoroids Book project
- Proposals to organize the 10th Meteoroids conference in 2019

The discussion was very vivid especially about the definitions of terms.

The OC evaluated two proposals to hold the next Meteoroids Conference in 2019 and decided that the conference will be organized by the Comenius University in Bratislava, Slovakia, together with the Astronomical Institute of the Slovak Academy of Sciences. The tenth Meteoroids conference will therefore return after 20 years, to Slovakia, where the first three conferences of the series took place.

The OC prepared a proposal entitled “Source regions of near-Earth objects and meteoroids” for a Focus Meeting to be held during the General Assembly in 2018. Unfortunately, the proposal which was supported by the coordinating Division F, and Divisions A and B, was not selected by the Executive Committee. The Commission also supported the proposals for a Symposium titled “Cosmic dust: origin, applications and implications” and a Focus Meeting “Understanding historical observations to study transient phenomena”; the latter was selected. Finally, the Commission supported a proposal for a 2019 IAU Symposium entitled “Laboratory astrophysics: from observations to interpretation”.

2. Meteor Data Center

The Commission maintains the official IAU Meteor Data Center (MDC) in Poznan, Poland. The data can be accessed at <http://www.ta3.sk/IAUC22DB/MDC2007/>. In 2017 an application for a grant to support the maintenance and upgrades of the MDC was submitted to ESA, but was, unfortunately, not successful. The database contains photographic and video orbits of meteors as well as the list of established meteor showers, the working list of meteor showers, and the list of removed showers. The nomenclature of meteor showers is the task of a specialized working group.

The Working Group on Meteor Shower Nomenclature was active already under Commission 22 (since 2006) and was officially re-activated following an official proposal by C.F1, which was approved by the Division F President in spring 2016. The WG has 10 members including two IAU Associates (one is an active amateur astronomer and one is a young scientist). The chair is Diego Janches. The objective of the WG is to formulate a descriptive list of newly established meteor showers that can receive official names during the next General Assembly. The WG collaborates closely with the IAU MDC. As of February 2018 there are 112 established showers and the working list contains 813 showers, among them 255 have *pro tempore* status and 23 are being prepared to be removed. Recently, many new showers were reported by the new Brazilian Meteor Observation Network (BRAMON) and currently are waiting to be verified.

3. Definitions of terms in meteor astronomy

One of the declared aims of C.F1 was the revision of definitions of terms related to meteor astronomy. The previous IAU definitions from 1961 were in some cases no longer adequate. The proposal of new definitions was prepared by an *ad hoc* committee and discussed at the business meeting in Noordwijk. Following that discussion, the OC amended the proposal and prepared definitions of five basic terms (“meteor”, “meteoroid”, “dust”, “meteorite”, and “meteoric smoke”) plus explanatory remarks and secondary definitions. The document was then approved by an electronic voting by all Commission members which closed on April 30, 2017 (64 votes were in favor, two were against). The new

definitions were posted on the official web page of the Commission F1 (under iau.org) and published in the journal WGN. Since the definitions are meant as guidance not only for experts but also for the general public, they have also been explained as one of the Themes in the section IAU for the Public on the IAU web pages.

4. Meteoroids book

Another important activity is the “Meteoroids-book” project. Our research community is in need of a new reference book focusing on the topic of Meteoroids. The book is being written by leading experts and will be a comprehensive review of all aspects of the subject, with the overall goal of summarizing the progress and current state of the art of our scientific field. The book will also serve to establish a framework for the direction in which the field will move in the next decade and beyond. The OC nominated Galina Ryabova as the chief editor. In 2016, a call for individual chapter proposals was made to the community via C.F1. These proposals were carefully considered by the OC, both in terms of their own quality and their suitability for the book as a coherent volume. The OC invited a few additional authors to contribute chapters in order to fill remaining gaps. Early in 2017 we prepared a publishing proposal for Cambridge University Press (CUP), which was accepted at the end of May, 2017, with the book’s title being “Meteoroids: Sources of Meteors on the Earth and Beyond”. Our Agreement with CUP specifies that the first submission of chapter manuscripts was on 31 January 2018, and the final submission of the manuscript will be on 01 December 2018. The expected publication date is August 2019. At present the reviewing process is ongoing.

5. MetLib project

C.F1 is also involved, together with the International Meteor Organization, in project “MetLib”, which is coordinated by Galina Ryabova. The aim is creating a bibliography of meteor related publications. The breath of publications in meteor science published in languages other than English is significant and most of them are not indexed in SAO/NASA ADS and thus mostly remain unknown to the meteor researcher community, even though they undoubtedly contain critical data or ideas. In 2016 the performance specification for a WWW-software, where this bibliography should be collected, was elaborated. Because we have no budget, we charged a student of the Tomsk State University with the site construction as her BSci task. A sizeable part of a Russian bibliography is also prepared. In January 2018 an agreement was reached with the Scientific Library of Tomsk State University about the establishment of an electronic depository for MetLib. In 2018 papers and books published by authors of Tomsk State University should be scanned for this depository.

Jiří Borovička
president of the Commission