

International Academy of Astronautics

6, rue Galilée, 75116 Paris

<http://www.iaaspace.org>

Commission 1 Space Physical Sciences

Minutes of Meeting

11 October 2021 – 17h00-19h00 CET

Online (BlueJeans virtual meeting)

Attendance: Athena Coustenis, Ioana Cozmuta, Fabrice Dennemont, Rao F., Randy Goldstone, Louis Lanzerotti, Randy Liebermann, Austin Mardon, Ralph McNutt, Marius-Ioan Piso, Radhika Ramachandran, Gerhard Schwehm (acting chair; Vice Chair), John Schumacher, HE. Z. Shawn, Nickolay Smirnov, Gustavo Medina-Tanco, Jill Tarter, Stephan Ulamec, Antonio Viviani, Hajime Yano (Secretary), John Zarnecki

Excused: Rosaly Lopes (Chair), Susan McKenna-Lawlor

1. Welcome Commission Chair (acting G. Schwehm)
 - As the acting chair, Schwehm welcomed the participants on behalf of Lopes the Commission Chair who was absent.

2. Adoption of the Agenda Commission Chair
 - The agenda was unanimously adopted.

3. Adoption of the Minutes of last Commission 1 meeting
 - Schwehm briefly presented the minutes of the last meeting and they were unanimously adopted.

4. IAA Cosmic Studies

4.1 Current Studies

- SG 1.9 Satellite remote sensing of aerosols in the Earth atmosphere

(Chair: Yatskiv Yaroslav)

- Despite the decision to provide the status feedback to the Commission at the last meeting, no new reports were made. Since this study is based on results from a satellite which is not launched yet, it has been kept on hold for more than five years. The Commission decided to ask the study team to present a white paper and then to close this study group.

- SG 1.13 Small Satellites for Extremely Low Cost Planetary Mission

(Chairs: Baker John, Vane Gregg)

- Since the last meeting, there were no new inputs to the Commission. It was suggested the Commission Chair Lopez to ask the status of the final report to Vane.

- SG 1.14 Integrated Precursor Distinguish in Multi-Geophysical Fields around Global Earthquake Events with Magnitude larger than 7 in Recent 10 Years

(Chairs: Bao Weimin, Contant Jean-Michel, Kuznetsov Vladimir)

- Dennemont reported the progress in last six months. Although the final report was planned to be available in August 2021, now the study team proposes to send the English version of the final report to IAA by June 2022, while they said that the Chinese version of the final report had been already written up. The IAA office has not received the Chinese version yet, either.
- The Commission decided to take the following actions: (1) to send a letter to the study team leads for requesting to make the English version of the final report by March 2022 for expert reviews and evaluation, in order to close this study group; (2) to ask the study team to provide IAA the Chinese version of the final report as soon as possible.

- SG 1.15 International Cooperation on Space Weather

(Chair: McKenna-Lawlor Susan)

- No new progress was reported as McKenna-Lawlor was still recovering from illness. As she seemed the only author and there was no vice chair to delegate her role, the Commission decided to ask McKenna-Lawlor to terminate this study group.

4.2 New Studies Proposals All

- SG 1.XX Study to be resubmitted (restart): Expanding Options for Implementing Planetary Protection during Human Space Exploration

(Chairs: Conley Catharine, Race Margaret)

- No new progress was reported. Coustenis, who is the current chair of COSPAR Planetary Protection Panel, explained the current efforts on the very same topics by professional scientists in COSPAR. The Commission agreed that IAA should not compete with these efforts. Since this study group has not shown willingness to continue this work, the Commission recommends to terminate this study group and not to approve its restart.
- Instead, the Commission encourages this study group co-chairs to propose a new topic or issue, potentially jointly studied by other commissions such as Commission 5, e.g., legal aspects of this topic, so that the IAA effort will not overlap with that of COSPAR.
 - Discussion on New Study Group Ideas
- Cozmuta, a new CM gave a self-introduction and suggested scientific and legal aspects of commercial spaceflight issue as a possible, new joint study topic with the Commission 5. Schwehm agreed to contact the Commission 5 for a joint study group proposal.
- “Impacts of commercial satellite constellation on astronomy” is a timely topic but rapidly changing its landscape. Ulamec, Zarnecki, Cozmuta, Schwehm, and McNutt supported that IAA needs a good study group proposal on this topic. Medina-Tanco cautioned that other international academic communities such as IAU, COSPAR, ESO, etc. also share this concern and IAA should avoid too much redundancy. The space traffic management may be a topic for other Commissions rather than the Commission 1.
- McNutt provided the information on www.commercial.spaceflight.org.
- Ulamec and Cozmuta agreed to support preparation of this proposal from a joint team of commercial and scientific communities. Schwehm agreed to coordinate this action. The new study group proposal should be reported in the next March Commission meeting.
- If any Commission members have other new study group ideas, they should propose it by writing to IAA HQ.

5. IAA Conferences

5.1 Current IAA Conferences

5.1.1 IAA Search for Life Signatures,

Location, Date TBD (before or directly after the IAC 2022 in Paris)

Program Committee Chair or representative: Claudio Maccone / Michael Garrett

- New information has not been reported yet.

IAA Symposium on the Future of Space Exploration

Program Committee Chair or representative: Giancarlo Genta

IAA Space Flight Safety Symposium (SFS)

Program Committee Chair or representative: Nickolay Smirnov

- It was taken place as a face-to-face meeting in June 2021. There were ~50 abstracts and ~20 of them were submitted to Acta Astronautica for publication. The next symposium will be in June 2022.

IAA 14th Low Cost Planetary Mission (LCPM) 2022

Program Committee Chair or representative: Hajime Yano, John Baker, Pierre Bousquet

- Yano reported the status of LCPM preparation. Despite the COVID-19 global pandemic, ISTS (International Symposium on Space Technology and Science) organized by JSASS (Japan Society of Astronautical and Space Sciences) will jointly host this hybrid meeting between online and onsite in Beppu, Kyushu, Japan on February 26 – March 4, 2022. The LCPM will be a 3-days session within the ISTS schedule and a dedicated conference room with 70+ seats and interactive online presentation system is secured. The abstract submission has been open and all the IAA members are welcome to attend. Online registration is a half of the onsite registration fee. The special issue of the refereed publications may be arranged with Acta Astronautica, if enough interests are shown. The details can be found at ISTS2022 homepage now and also at the IAA homepage soon.

5.1.2 IAA Symposia at IAC

IAA Symposium on the Search for extraterrestrial intelligence (SETI)

Program Committee Chair or representative: Claudio Maccone

- 39 abstracts would be presented at Dubai IAC this fall.

5.2 New Conferences proposals All

* No new conference proposals were made.

6. Report from the IAA Permanent Committees

IAA Permanent Committee on the Search for Extraterrestrial Intelligence (SETI)

Chair: Michael Garrett, Co-Chairs: Andrew Siemion and Carol Oliver, Secretary: Lori Walton

- There will be a meeting in IAC Dubai. New chair and secretary will be selected.

7. Other Business All

* Schwehm as the acting chair closed the meeting by thanking the great attendance and active discussion. It was a consensus among the Commission that this hybrid-style Commission meeting should be continued to sustain a large participation and active communication in the future.

* The next Commission meeting will be held in March, both online and onsite in Paris.

Gerhard Schwehm
Acting Chair

Hajime Yano
Secretary