

IAA Commission 1 'Space Physical Sciences' Meeting  
2 October 2011 (Sunday) 09h00-12h00, Room TS5, International  
Convention Center  
Cape Town, South Africa

**Minutes of the meeting**

**Meeting Attendance:**

Nickolay Smirnov (secretary), Stamatios Krimigis, Mazlan Othman, Stephan Ulamec, Susan McKenna-Lawlor, H. Paul Shush, Douglas Vakoch.

**Agenda:**

1. Welcome and adoption of agenda
2. Minutes from 22 March 2011 meeting in Paris, see homepage.
3. Study Group activities: status, progress reports, cancelled studies.
4. SETI IAA activities (Seth Shostak)
5. Proposals for new Study Groups
6. Discussion on IAA Commissions membership
7. Commission 1 relevant sessions and Plenary events at 62th IAC.
8. Proposals for 63d IAC in Naples, 2012. Symposia Recommendations & call for papers changes. Technical Session Recommendations.
9. Next meetings
10. New business

The following topics were discussed at the Commission 1 meeting.

**1. Welcome and adoption of agenda**

That was adopted.

**2. Minutes from 22 March 2011 meeting in Paris, (see homepage)**

That was approved.

**3. Study Group activities: status, progress reports, cancelled studies.**

Study Group 1.5. Particle radiation hazard en route to and at Mars.

Susan McKenna-Lawlor was present and presented the Status report on the Commission I book

Summary is the following:

- Fourteen chapters have been prepared for the Academy book, one chapter was suggested by the Reviewer to be split into two chapters, so, probably there will be 15 chapters total.
- Five chapters have already been considered by the internal Academy referee and, have been revised by the authors and finally finished.

- A chapter that was split into two awaits further review.
- Two other chapters were sent to Dr. Kendall and are under review.
- Five further chapters are on standby for reviewing.
- Overall, 5 chapters are ready and 9 (probably 10) are still awaiting reviewing, sending back to their authors and having the upgraded version checked.

The efforts of Susan Mckenna-Lawlor were highly appreciated by commission members. It became clear, that due to a big volume of the book it would be hardly possible to finalize it by the end of the year. Thus it was suggested to assemble the book in two volumes and to get ready with the first volume and transfer it to the publisher by the end of 2012. The status of the second volume will be discussed at the next meeting in Paris in March 2012.

#### 1.6. Protected antipode circle of Lunar far side.

Claudio Maccone – the group leader – was absent at the meeting. Nickolay Smirnov informed the Commission 1 members that the research is going fine. A paper is published in *Acta Astronautica*. Technical draft of the International Treaty was developed by the study group.

#### **4. SETI IAA activities**

SETI is no longer a permanent study group, but SETI Committee. The Chair Seth Shostak was not able to attend due to Force Major. The report was presented by H. Paul Shush. Douglas Vakoch also made comments on the topic. New protocols on “Declaration of Principles Concerning the Conduct of the Search for Extraterrestrial Intelligence” were presented to the Commission members. Rationale for the Drafting of a Revised Set of Protocols to be Followed in the Event of a SETI Detection was also presented. The Commission members after discussion approved both documents and recommended these documents for approval by the Board of Trustees.

#### **Declaration of Principles Concerning the Conduct of the Search for Extraterrestrial Intelligence**

##### **Preamble**

The parties to this declaration are individuals and institutions participating in the scientific Search for Extraterrestrial Intelligence (SETI).

The purpose of this document is to declare our commitment to conduct this search in a scientifically valid and transparent manner and to establish uniform procedures for the announcement of a confirmed SETI detection.

This commitment is made in recognition of the profound scientific, social, ethical, legal, philosophical and other implications of a SETI detection. As this enterprise enjoys wide public interest, but engenders uncertainty about how information collected during the search will be handled, the signatories have voluntarily constructed this declaration. It, together with a current list of signatory parties, will be placed on file with the International Academy of Astronautics (IAA).

##### **Principles**

1. *Searching*: SETI experiments will be conducted transparently, and its practitioners will be free to present reports on activities and results in public and professional fora. They will also be responsive to news organizations and other public communications media about their work.

2. *Handling candidate evidence*: In the event of a suspected detection of extraterrestrial intelligence, the discoverer will make all efforts to verify the detection, using the resources available to the discoverer and with the collaboration of other investigators, whether or not signatories to this Declaration. Such efforts will include, but not be limited to, observations at more than one facility and/or by more than one organization. There is no obligation to disclose verification efforts while they are underway, and there should be no premature disclosures pending verification. Inquiries from the media and news organizations should be responded to promptly and honestly.

Information about candidate signals or other detections should be treated in the same way that any scientist would treat provisional laboratory results. The Rio Scale, or its equivalent, should be used as a guide to the import and significance of candidate discoveries for the benefit of non-specialist audiences.

3. *Confirmed detections*: If the verification process confirms – by the consensus of the other investigators involved and to a degree of certainty judged by the discoverers to be credible – that a signal or other evidence is due to extraterrestrial intelligence, the discoverer shall report this conclusion in a full and complete open manner to the public, the scientific community, and the Secretary General of the United Nations. The confirmation report will include the basic data, the process and results of the verification efforts, any conclusions and interpretations, and any detected information content of the signal itself. A formal report will also be made to the International Astronomical Union (IAU).

4. All data necessary for the confirmation of the detection should be made available to the international scientific community through publications, meetings, conferences, and other appropriate means.

5. The discovery should be monitored. Any data bearing on the evidence of extraterrestrial intelligence should be recorded and stored permanently to the greatest extent feasible and practicable, in a form that will make it available to observers and to the scientific community for further analysis and interpretation.

6. If the evidence of detection is in the form of electromagnetic signals, observers should seek international agreement to protect the appropriate frequencies by exercising the extraordinary procedures established within the World Administrative Radio Council of the International Telecommunication Union.

7. *Post Detection*: A Post-Detection Task Group under the auspices of the IAA SETI Permanent Study Group has been established to assist in matters that may arise in the event of a confirmed signal, and to support the scientific and public analysis by offering guidance, interpretation, and discussion of the wider implications of the detection.

8. *Response to signals*: In the case of the confirmed detection of a signal, signatories to this declaration will not respond without first seeking guidance and consent of a broadly representative international body, such as the United Nations.

## **Rationale for the Drafting of a Revised Set of Protocols to be Followed in the Event of a SETI Detection**

Submitted by Dr. Seth Shostak  
Chair, IAA SETI Permanent Committee

The IAA SETI Permanent Committee has, for the last four years, dealt with revisions to a set of protocols – entitled the “Declaration of Principles Concerning Activities Following the Detection of Extraterrestrial Intelligence” – that were originally drafted during the time of the NASA SETI program.

These guidelines, which were voluntarily adopted by many of the SETI researchers of the time (either as institutions or individuals), were primarily intended to assure both the public and SETI practitioners both in the U.S. and the U.S.S.R. that any signal detection would be openly shared. A copy of the protocols was approved by the IAA Board in 1989, and given to, and filed by, COPUOS.

In recent years, the IAA SETI PSG has elected to revisit these protocols with the intention of (1) streamlining both the wording and the intention, and (2) removing ambiguities and obvious impediments to utility.

As examples of the latter, note that the original Declaration was unclear as to whether there was a specified order in which groups should be notified in case of a SETI detection, and also limited confirming observations to signatories to the Declaration. In practice, of course, the latter might greatly hinder a timely proof of a true extraterrestrial signal.

The revised protocol is entitled “Declaration of Principles Concerning the Conduct of the Search for Extraterrestrial Intelligence,” and has been carefully reviewed both by practicing SETI scientists and those expert in space law, generally members of ISSOL.

It is the intention of the IAA SETI PC, as voiced in several votes during the past four years, that this new document replace the old. To this end, we respectfully request the IAA Board’s consideration of this initiative.

### **5. Proposals for new Study Groups**

No new Study Groups were proposed.

### **6. Discussion on IAA Commissions membership**

It was suggested, that the Commissions should incorporate 10 members as it was always the case.

### **7. Commission 1 relevant sessions at 62th IAC in South Africa, October 2011. Plenary events.**

- a) Microgravity science and processes Symposium,
- b) Small satellites Symposium.

### **8. Proposals for 63d IAC in Naples, 2012.**

Commission 1 came up with the idea that a suitable topic for Naples would be “Is there a future to outer planet exploration?”. The idea is that the topic has several dimensions-scientific, technical, power (RTG?), managerial-all of which are of interest to the mix of IAA/IAC

members. The Commission 1 requested Tom Krimigis to be coordinator, and requested him to talk to Michele Dougherty to organize and run such a plenary event.

Commission 1 Proposed also to have a Highlight lecture (HLL) on the topic “Surpassing the speed of light” and to request COSPAR President to organize the lecture.

### **9. Next meetings**

Next meeting will be held in March 2012 in Paris during the Academy Day.

### **10. New business.**

Commission 1 decided to recommend the Editorial board of Acta Astronautica two special issues of the Journal based on the best papers presented at the passed topical conferences.

10.1 Low Cost Planetary Missions Conference (LCPMC) at APL was held this summer. The program committee now have selected about 19, eight page papers suitable for submission to Acta. Dr. Ralph McNutt, Jr. will be the invited editor. He is an IAA Section 1 member and was on the program committee for the LCPMC this past summer. (Presented by Tom Krimigis)

10.2. 5-th International competition and conference on trajectories optimisation launched by ESA was held in Moscow this September. Dr. Maxim Zapletin will be the invited editor. He is the member of Organizing Committee of the 5-th Competition and the winner of the 4-th Competition. (Presented by Nickolay Smirnov).

Commission adopted the suggestions and asked Nickolay Smirnov to deliver the relevant papers to the Editor in Chief during the Editorial Board meeting on October 6, 2011.