

Commission 4 Space Operation and Utilization

Minutes of Meeting

20 March 2017 – 13h30-16h00
Paris, France

Appendix-1 shows participants of this meeting.

1. Welcome

Commission Chair

Chair Ovchinnikov informed summary of “Commission Plenary Session (restricted)” held right before this Commission 4 meeting. (1) Each commission should have active member who can be appeared on each meeting, recently many commission members cannot join this meeting. (2) Study Group should be finalized (final report) within 3 years as planned. Some study groups took 8 years.

Also, Chair Ovchinnikov reported that Vice-chair Tsuchida and Secretary Balint participated “Space Debris permanent committee” meeting in this morning. Space Debris Permanent committee suggested a joint session between the Space Debris (A6) and the Small Satellite (B4) tracks at IAC2017. Commission 4 member discussed that Laufer will start establishing communications with Space Debris Permanent Committee to refine the details on possible cooperation. In addition, Commission 4 wants to consider creating a new study group for this. This will be explored and presented at the 2018 Spring meeting. (See 4.2 new study proposal.)

2. Adoption of the Agenda

Commission Chair

Chair Ovchinnikov worked through planed agenda.

3. Adoption of the Minutes of Commission 4, Paris March 2016 meeting

Commission Chair

Chair recommended reading this by them.

4. IAA Cosmic Studies

4.1 Current Studies

For other study groups under Commission 4 (i.e. SG4-8, 9, 11, 16, and 17), Commission 4 leadership will follow up and report at the Fall Meeting 2017.

Study Group 4.16 Chair or representative:
Alkalai/Graziani/Bousquet/Laufer

Applications of Micro-Satellites and Cube-Sats to Planetary Science and Exploration Missions

According to the status report by Alkalai, the study has an updated outline, and table of contents, and a partial draft has been completed. First full draft will be provided at the IAC-17 in Adelaide. It was agreed that if no delivery is provided by Adelaide, Commission 4 would explore alternative approaches to reach completion of the study, which may include closing the study down, or reorganizing the roles in the study. The study has been dragging on too long, and reaches the limits of an expected closure.

Alkalai identified challenges for the study are: Limited visibility to international aspects, e.g., Europe or other parts of the world are currently not addressed, and the main focus is on US activities. (The statement has been corrected, as Russian researchers are already contributing to the study.)

Study Group 4.17 Chair or representative: Cappelletti/Graziani/Massimiani; Space systems for biological research

The study changed leadership, with a new chair from Brazil. Chantal Cappelletti submitted status report.

Study Group 4.18 Chair or representative: Cho/Graziani/Polansky Definition and Requirements of Small Satellites Seeking Low-Cost and Fast-Delivery

The report has been submitted to IAA at the end of 2016. Commission 4 acknowledged that a miscommunication has occurred and we did not review the submitted report. It has been agreed that the review process will be expedited and the report will be published before the 2017 fall meeting. As the first step, Commission 4 recommended to SAC the report for publication. A total of 120 experts contributed to the report, which included a number of IAA members.

Study Group 4.19 Chair or representative: Horikawa/Coradini Promoting Global Space Knowledge & Expertise in Developing Countries

No update provided. The latest update on the study was provided during the fall meeting, where Jeanne Holm informed the Commission on the status for Dr. Horikawa. We have also reported to SAC that the “study group chair was replaced from Dr. Mazlan Othman to Dr. Yasushi Horikawa, and reestablishing activities (4 hands on training sessions in Africa – Kenya, Sierra Leone, Uganda, Tansania)” An interim report is expected at the fall meeting in 2017 as it was not provided for the Spring meeting.

Study Group 4.20 Chair or representative: Bao Weimin/Contant Space Information Application in Earthquake Emergency Response

Jingfa Zang provided a status update. We are expecting a second draft at the Fall meeting.

Study Group 4.21 Chair or representative: Belokonov/Schilling Distributed, Networked, Smart, Cooperating Small Satellite Formations

Dr. Klaus Schilling presented an update on the study, and promised a first draft of the report at the Fall meeting in Adelaide.

- Three potential study ideas will be explore further at the Fall meeting in Adelaide, these are the same as reported in Guadalajara:
- Knowledge management and Integrate Application (Big Data) - Potential Chair is Mugellesi Roberta (ESA)
- Implementation and Reliability Issues of Space Debris countermeasures of Small satellites - Potential Chairs are Alex Da Silva and Rei Kawashima
- The Optimization of Branching Aerospace Trajectories – Potential Chairs are Paolo Teofilatto and Alexander Filatyev. Proposal is expected to be submitted to the Academy in the summer, 2017.

5. IAA Conferences

5.1 *Current IAA Conferences*

12th IAA Symposium on Small Satellite for Earth Observation,
24-28 April 2017, Berlin, Germany
Program Committee Chair or representative: R. Sandau
(250-300 expected attendees; IAA well represented; also DLR and ESA)

3rd IAA Conference on Dynamics and Control of Space Systems
(DYCOSS), 29 May-01 June, 2017, Moscow, Russia – representative
M.Ovchinnikov

4th IAA Cubesat Winter Workshop in Europe
October, Bulgaria
Program Committee Chair or representative: R. Sandau

10th Pico and Nano Satellite Workshop
September 13-14, 2017, Wurzburg, Germany
Program Committee Chair or representative: K. Schilling

4th IAA-RACTs Conference Scientific and Technological Experiments on
Automatic Space Vehicles and Small Satellites
Samara, Russia: Date: TBD
Program Committee Chair or representative: TBD

Low Cost Planetary Missions conference
August 2017, Pasadena, CA, USA
IAA representation, including and IAA dinner; Organizer: G. Vane

5.1.2 IAA Symposia at the upcoming IAC-17

50th IAA symposium on safety, quality and knowledge management in space
activities, Adelaide (IAC D5)
Program Committee Chairs or representatives: J. Holmes/ R. Mugellesi-Dow

24th IAA symposium on small satellite mission, Adelaide (IAC B4)
Program Committee Chairs or representatives: A. Da Silva Curiel/

R. Hornstein

19th UN/IAA workshop on small satellite at the service of developing countries, Adelaide (IAC B4.1)

Program Committee Chairs or representatives: S. Mostert/W. Balogh

5.2 *New Conferences proposals*

All

(These two conferences were proposed, as a Commission 4, we are going to explain these two at SAC meeting. (And SAC approved these two on the same day. (Akira Tsuchida added.)) Dear Rainer Sandau, please go ahead to send these proposal to IAA Secretary and IAA Secretary General to proceed paper work. IAA Secretary General Jean-M. Contant gave me a verbal approval during SAC meeting.)

- 1st IAA Latin American Symposium on Small Satellites – Advanced Technologies and Distributed Systems

Date, Place: March 7th to March 10th 2017, Buenos Aires, Argentina

proposed by Livio Gratton, Rainer Sandau

- 1st IAA North East Asia Symposium on Small Satellites – Serving the Needs for the Benefits of the Region

Date, Place: August – September, 2017, Ulaan-Baatar, Mongolia
proposed by M. Saandar, Rainer Sandau

Proposals due by the end of March

- 4th IAA Conference on University Satellite Missions and CubeSat Workshop in Roma.

Date, Place: December 2-4, 2017, Roma, Italy

Proposed by Prof. Graziani

6. Report from the IAA Permanent Committees

- IAA Permanent Committee on Small Satellites
Chair: R. Hornstein, Co-Chair: Laufer Rene, R. Sandau
Secretary: D'Errico M,

At the Guadalajara conference 229 abstracts were submitted, which were at the 2014 level in numbers. Rhoda Horstein and de Silva helped to expand it. There were also two joint sessions, with related to small satellites and space debris.

With these the small satellites symposium had a total of 12 sessions.

Ray Kawashima reported on the Unisec-global global small satellites activities.

Small satellite commercialization permanent committee was approved in Mexico, with plans for the call for papers for Bremen.

This new B5 mirrors hat the IAA permanent committee is doing already. The proposed 8 sessions mirror 7 of the 8 existing IAA sessions. Thus, there is a concern that there will be duplications between B4 and B5.

R. Laufer will represent the small satellites permanent committee, and advocates against this duplication.

7. IAA Heads of Space Agencies Summit

No discussion was performed.

8. Adjourn

Appendix-1 Participants – Commission 4 Spring meeting, Paris, France, 2017 March

No	Name	Role	Attended	Email
1	Ovchinnikov, Mikhail (Russia)	Chair	x	ovchinni@keldysh.ru
2	Tsuchida, Akira (Japan)	Vice Chair	x	tsuchida.akira@gmail.com
3	Balint, Tibor (Hungary)	Secretary	x	tibor.balint@jpl.nasa.gov
4	Teofilatto, Paolo (Italy)	Past Chair	x	paolo.teofilatto@uniroma1.it
5	Kashanov, Olexandr (Ukraine)	Member	x	kaschanov@ukr.net
6	Laufer, Rene		x	rene_laufer@baylor.de
7	Filippo Graziani		x	filgraziani@gmail.com
8	Romero, Manola		x	romero.manola@gmail.com
9	Nogawa, Yuichiro		x	nogawa.yuichiro@gmail.com
10	Kawashima, Rei		x	rei@unisec.jp
11	Heischer, Matthias		x	Matthias.Heischer@dlr.de
12	Chang, Jingfa		x	zhangjingfa@hotmail.com
13	Aguado, Fernando		x	faguado@uvigo.es
14	Mugellesi Dow, Roberta		x	roberta.mugellesi.dow@esa.int
15	Mijiddorj, Saandar		x	msaandar@yahoo.com
16	Cho, Mengu		x	cho@ele.kyutech.ac.jp
17	Schilling, Klaus		x	schi@informatik.uni-Wuerzburg.edu
18	Alkalai, Leon		x	leon.alkalai@jpl.nasa.gov
19	Farquhar, Irene		x	irene.farquhar.if@gmail.com
20	Wang, Lin		x	wanglin2049@stna.com
21	Misra, Arun		x	arun-misra@mcgill.ca
22	Filatyev, Alexander		x	filatyev@yandex.ru
23	Guerman, Anna		x	anna@uli.pt
	<i>Esper/D'errico/Herrel/Mendham</i>	<i>SG4-8 Chair</i>		
	<i>Menshikov/Murthi</i>	<i>SG4-9 Chair</i>		
	<i>Gu Xingfa/Zhou Xiang</i>	<i>SG4-11 Chair</i>		
	<i>Alkalai/Graziani/Bousquet/Laufer</i>	<i>SG4-16 Chair</i>		
	<i>Cappelletti/Graziani/Massimiani</i>	<i>SG4-17 Chair</i>		
	<i>Cho/Graziani/Polansky</i>	<i>SG4-18 Chair</i>		
	<i>Horikawa/Coradini</i>	<i>SG4-19 Chair</i>		
	<i>Bao Weimin/Contant</i>	<i>SG4-20 Chair</i>		
	<i>Belokonov/Schilling</i>	<i>SG4-21 Chair</i>		