

Minutes from the ILRS MWG Meeting
October 26, 2015

Chair: Toshimichi Otsubo

Co-chair: Scott Wetzel

Other Attendees:

Stephen Merkowitz, NASA	Michael Pearlman, CfA	Julie Horvath, HTSI/NASA
Carey Noll, NASA	David Arnold, SAO	Ludwig Grunwaldt, GFZ
Luca Porcelli, INFN-LNF	Krzysztof Sosnica, WUELS	Tom Johnson, NGA
Jan Weiss, UCAR	Giuseppe Bianco, ASI/CGS	Natalia Parkhomenko, PSI
Jean-Marie Torre, Geoazur	Ulrich Schreiber, TUM	Johann Eckl, BKG
Xiaoya Wang, SHAO	Mikhail Sadovnikov, PSI	Ivan Prochazka, CTU
Jan Kodet, TUM	Martin Ploner, AIUB/Zim	Franz Koidl, OEAW
Georg KIRCHNER, OEAW	Zhang Zhongping, SHAO	Zhao Gang, SHAO
John Degnan, Sigma Space	Kate Stevenson, Harris Corp	Graham Appleby, NERC SGF
Dave McCormick, NASA	Gunther Herold, BKG	Victor Shargorodskiy (not on signup sheet)

Planned Agenda

(1) Opening/Welcome

New Members: A Boni, A Sokolov and Zhang Z

(2) Recently approved missions, (3) Future missions (5 min each)

PN-1A, B, C & D (Zhang Z): approved on 28 Apr 2015, more info required

- **Compass (Zhang Z)**
- **NISAR (?) – No discussion occurred**
- **LightSail-A/B (S Chait; read by T Otsubo)**
- **COSMIC-2 (J Weiss)**
- **SC Lomonosov (A Sokolov)**

(4) Mission Support Request (MSR) Form: Revision Plan

(5) Others

(6) Closure

Minutes from the meeting.

- 1. The meeting was opened with a greeting from the Chairman to the large group and showing the agenda and introducing the new members of the MWG (Boni – to be replaced by Porcelli, Sokolov and Zhang Z)**
- 2. Zhangping gave a status on plan on the new Compass PN-1 satellites (nano and pico satellites)**
 - a. One nano satellite and three picosatellites
 - b. 530 km orbit
 - c. Multiple instruments on the nanosat
 - d. GNSS and LRA on picosat
 - e. There will be a series of 30 satellites by 2020.
 - f. More ILRS support is needed and appreciated.

3. No NISAR satellite presentation was provided
4. LightSail-B Presentation was provided and presented by Toshi
 - a. Planned launch for 2016, not 2015
 - b. This is a low orbit, low inclination orbit, so not much support would be expected due to orbit.
 - c. LightSail-B needs better predictions, communication, coordination with ILRS.
 - d. Toshi will send a message for better communications and commitment to LightSail-B project.
5. Jan Weiss provided a presentation on COSMIC-2 Mission
 - a. He explained the background COSMIC-2 and history of COSMIC-1
 - b. COSMIC-2 has 2 sets of 6 satellites
 - i. First set is low inclination with poor array design (single small cube)
 - ii. Not much support is expected
 - iii. Suggested that just a couple systems try to track one satellite and continue on success or stop.
 - iv. Second set of satellites will have a polar orbit and we have time to suggest an appropriate array
 - v. A follow up discussion is expected with MWG.
 - vi. Dave Arnold performed some analysis on expected results of tracking COSMIC-2
6. A presentation was provided on SC Lomonsov that was provided by Sokolov
 - a. Flying two pyramid array design that was shown at the Annapolis workshop.
 - b. Satellite will fly at a 500 km/97.6 deg orbit
 - c. New very light array (30 gms)
 - d. MSRF will be provided
7. A presentation on Sentinel was provided
 - a. There is a very short time before launch
 - b. There will be an issue with potential damage above 85 deg tracking
 - c. There remains a lot of discussion with mission and an updated MSRF needed
 - d. Toshi referenced a sense of urgency for the mission to get ILRS required information
 - e. Wetzel mentioned that with a restriction (max elevation) with a short time, may result in delayed support.
8. A brief discussion on how we deal with follow-on missions or series missions and the need for MSRF
 - a. Further discussion needs to be done due to short time to discuss
 - b. No new MSRF if no significant changes to mission or array for next mission
 - c. New MSRF needed for changes, especially if the type of array changes or unique new/other mission requirements
 - d. MWG needs further discussion as "home work"
9. Revised MSRF
 - a. Another short discussion due to timing.
 - b. Changes in the MSRF to make better for missions and to provide better information for MWG to quickly and more easily to make a decision.

- c. Final reviews by Chair/Co-Chair and a few others then submission to the MWG for group comments.

10. Next meeting in Potsdam Workshop in 2016

11. Thanks and meeting closure.