



Report on the Business Meetings of
Commission H
during the
XXXth URSI General Assembly and
Scientific Symposium
Istanbul, Turkey, August 13-20, 2011

1. Commission H Business meetings were held three times during the GA on the following three occasions.

- Business Meeting 1: Monday 15 August 2011 17:20 – 18:40 in room Topkapi B, chaired by Yoshiharu Omura
- Joint Business Meeting 2 G & H: Wednesday 17 August 17:20 – 18:40 in room Topkapi A, chaired by Paul Cannon and Yoshiharu Omura
- Business Meeting 3: Friday Friday 19 August 17:20 – 19:00 in room Topkapi B, chaired by Ondřej Santolík

Meers Oppenheim (USA) was appointed as the new vice-chair of Commission H after voting from the member committees and the commission chair during the first business meeting. The details of the votes are the followings: Meers Oppenheim (USA) 23, Craig Rodger (New Zealand) 22. The vice-chair has been confirmed to become an Associate Editor of Radio Science Bulletin. The chair of Commission H, Yoshiharu Omura (Japan) appointed the former vice-chair Ondřej Santolík (Czech Republic) as the new Chair.

2. New terms of reference of Commission H have been adopted after a discussion during the third business meeting.

The goals of the Commission are:

- To study waves in plasmas in the broadest sense, and in particular:

- the generation (e.g. plasma instabilities), propagation, and detection of waves in plasmas,
- wave-wave and wave-particle interactions,
- plasma turbulence and chaos,
- spacecraft-plasma interaction,
- instabilities, heating, and diagnosis of laboratory plasmas;
- To encourage the application of these studies, particularly in the areas of solar/planetary plasma interactions, space weather, and an increased exploitation of space as a research laboratory.

A vote was also taken on narrowing scope to waves in space plasmas, with 16 votes for and 16 votes against. The commission chair therefore decided not to adopt these proposed additional changes and keep the broader scope of the commission expressed by the above terms of reference.

3. Working Groups

Activities of the working groups related to Commission H were reviewed and their organization has been renewed as in the following.

Joint Working Groups

- *An inter-commission working Group on Solar Power Satellites*: Co-chair for Commission H: K. Hashimoto (Japan), Co-chair for Commission G: K. Schlegel (Germany).
- *EGH: Seismo-Electromagnetics*. Co-chair for Commission G: S. Pulnits (Russia), Co-chair for Commission H: M. Parrot (France)
- *GH: Active experiments in Space Plasmas*: Co-Chair for Commission G: Keith Groves (USA) (USA), Co-Chair for Commission H: B Thide (Sweden)
- *HEJ: Computer Simulations in Space Plasmas*: Co-chair for Commission H: Y. Omura (Japan) and B. Lembege (France), Co-chair for Commission J: K. Shibata (Japan)

Inter-Union WG

- *URSI/IAGA VLF/ELF remote Sensing of the Ionosphere and Magnetosphere (VERSIM)*, URSI Representative (Commission H): Janos Lichtenberger

4. Commission H recommendation: "Indication of invited papers in the Program Book of URSI GASS" was voted during the third business meeting by large majority:

Commission H recommends to indicate the invited papers of sessions of the appropriate Commissions. The number of invited papers in each session is limited (4 or less) in order to encourage submission of contributed papers and expansion of the community.

5. Proposed Meetings sponsored by URSI Commission H during 2011-2014

- International Reference Ionosphere (IRI), Hermanus, South Africa, 10-14 Oct 2011, (Commissions G & H, Lee-Anne McKinnell,)
- 13th International Symposium on Equatorial Aeronomy, Paracas, Peru, 12-17 March 2012 (Commissions F, G and H, Jorge L. Chau)
- 5th VERSIM workshop, September 2-8 (tentative), 2012, Sao Paulo, Brazil (Commissions G & H, Fernando Bertoni)
- 11th International School for Space Simulations, July, 2013 (Commission H, Lin-Ni Hau Taiwan)

Further suggestions will be handled by Commission H Chair O. Santolík during the 3 year period.

6. Commission H Tutorial for the 2014 GASS in Beijing, China

Yoshiharu Omura will give a tutorial at the next GASS: “Theory and simulations of nonlinear wave-particle interactions in the planetary radiation belts”

7. Science Session Proposals for the 2014 GASS in Beijing, China

- H1: Wave-particle Interactions and Their Effects on Planetary Radiation Belts (J. Bortnik, C. Rodger, R. Horne)
- H2: Boundary layers in terrestrial and planetary environments: Macro/micro-scale kinetic processes (B. Lembège, G. Lakhina, I. Shinohara).
- H3: Plasma interactions with solar system bodies (C. Mazelle, Y. Kasahara)
- H4 : Remote sensing of the Plasmasphere (J. Lichtenberger, C. Rodger, A. Collier)
- H5: Laboratory simulations of space plasma waves (A. Fredriksen, E. Tejero)
- H6: Open session (M. Oppenheim, O. Santolík)
- HGE : Ionospheric, magnetospheric and high energy effects of lightning (M. Fullekrug, V. Pasko, N. Liu)
- HG1: Drivers, detection, and ionospheric impacts of precipitation from the radiation belts (C. Rodger, M. Clilverd)
- GH1: HF-Driven Active Experiments (T. Pedersen, M. Kosch)
- GH2: The Geospace Environment and Meteors (S. Close)
- GH3: Radio sounding in magnetospheres and ionospheres (V. Sonwalkar)
- GH4: Plasma Waves and Turbulence in the Equatorial E and F Regions (E. Kudeki, C. Haldoupolis)

Note: Because of the limited time slots for oral sessions at the next GASS, the commission will decide later on reduction of the number of sessions.

8. Commission H discussed Emerging Scientific Issues and possible areas for new emphasis as follows.

- Space Weather
 - Impact of the Sun on the Earth's magnetic field and charged particles driven by waves in plasmas
- Space Radiation Environment
 - Electron acceleration in solar flares and interplanetary shocks and acceleration of cosmic rays.
- Exploration of planetary environments
 - Fundamental science of wave-particle interactions at the Moon, Mars, Jupiter and other planets and other smaller bodies in the Solar System
Solar
- Artificial plasma wave excitation in the magnetosphere
 - Active experiments with transmitters and laboratory plasmas
- Reconnection processes in space plasmas: associated plasma waves and turbulence