

IAGA/URSI Joint Working Group on VERSIM (VLF/ELF Remote Sensing of the Ionosphere and Magnetosphere)

Business meeting - Tuesday 25 August 2009 from ~1:05pm

There was a meeting of the VERSIM working group during the International Association of Geomagnetism and Aeronomy (IAGA) Scientific Assembly, held in Sopron (Hungary), at 1200 on Tuesday 25 August 2009.

Present: Craig J. Rodger (New Zealand) in the chair, Janos Lichtenberger (Hungary) the URSI co-chair, who was also present. J. Bortnik (USA), S. Cummer (USA), E. Correia (Brazil), F. Berton (Brazil), E. Schmitt (Germany), M. Clilverd (UK), N. Thomson (NZ), E. Williams (USA), C. Price (Israel), Y. Reuveni (Israel), J. Roeder (USA), A. Collier (South Africa), J. Manninen (Finland), B. Heilig (Hungary), M. Golkowski (USA), C. Ferencz (Hungary), O. Ferencz (Hungary), D. Hamar (Hungary), J. Chum (Czech), E. Macusova (Czech), Y. Omura (Japan), G. James (Canada), J. Albert (USA), R. Friedel (USA), R. Gamble (New Zealand).

Chairman's Report

Craig Rodger (the IAGA co-chairman), described the purpose and nature of the working group, and outlined activities of the working group since the previous IAGA general assembly, which was part of the IUGG meeting in Perugia (Italy). The last business meeting of the VERSIM community was at the 3rd VERSIM workshop, which was held in Tihany (Hungary) in September 2008 with 26 attendees. Since the IUGG meeting in Perugia, the VERSIM community also had a business meeting during the URSI General Assembly in Chicago (USA) in August 2008 with 13 attendees. Our community to open to those involved in our broad scientific interests spanning IAGA Divisions II and III, and also URSI Commissions G & H. While this may indicate our working groups activities do not necessary fit snugly into the structures of URSI and IAGA, the VERSIM working group operates comfortably inside both parent bodies.

The VERSIM community has shown a new vibrancy since 2004, with a series of VERSIM-specific workshops (2004, 2006 and 2008). As well as meeting through the VERSIM workshops, the community issues a yearly newsletter in which groups summarize their activities. The 2008 report included reports from 16 different research institutes from 14 countries.

3rd VERSIM Workshop

The 3rd VERSIM Workshop took place in September 2008 at the Balaton Limnological Research Institute (BLRI) of Hungarian Academy of Sciences, sponsored by Eötvös University and supported by IAGA and URSI Commission G and H. The workshop attracted slightly more than 50 participants from 15 countries, ranging from India and Serbia all the way to Brazil and the USA, and included 61 presentations. At the business meeting at this workshop we started the process of identify Science "Topics" that are of current interest to the wider international community. The initial ideas are listed as part of the [VERSIM Business Meeting minutes](#) from that workshop. Craig Rodger would like to hear any comments people have as to that basic idea, and to the specific topics listed.

4th VERSIM Workshop in Prague, Czech Republic (13-17 September 2010)

URSI has indicated financial support, an application has been submitted for IAGA support (this is pending). Anticipated primary sponsors are the Academy of Sciences of the Czech Republic and Charles University, (Faculty of Mathematics and Physics, Prague, Czech Republic). An informal

email survey confirmed that about 25 of our colleagues were already planning to attend, which included several of the primary scientific leaders in our community. We expect the final attendance will be similar to that of the 3rd workshop.

Symposia at future IAGA Assemblies

This IAGA meeting has a great deal of VERSIM- relevant sessions, including two suggested to IAGA through the VERSIM Business Meeting at Perugia (Energetic particle precipitation into the atmosphere: sources and consequences, Remote sensing of the plasmasphere, and coupling to the ionosphere). We will meet at in Melbourne in 2011 as part of the IUGG meeting (28 June - 7 July 2011). It was noted that this is quite close to the URSI general assembly which will also occur that year (13-20 August 2011). Roughly 12 of the 27 people present indicated they were likely to attend to Melbourne meeting.

Based on the successes of the 2009 IAGA meeting we suggest combining the existing 2 radiation belt sessions (Wave and particle dynamics in the ring current and radiation belts/geomagnetic storms, Energetic particle precipitation into the atmosphere: sources and consequences) into a single 2-day radiation belt session which should combine acceleration and loss of radiation belt particles, plasma waves, and the consequences of particle precipitation). This might be in combination with IAMAS. Suggested convenors Jacob Bortnk, Mark Clilverd and Craig Rodger.

It was also suggested another 0.5-1 day session should be suggested on the remote sensing of the plasmasphere (Janos Lichtenberger and Fred Menk).

We are also aware that there will be an IAMAS session on thunderstorm linkages to the ionosphere and atmosphere (including lightning and TLEs), which will be joint with IAGA. VERSIM endorses this call.

IAGA resolution on open-access scientific software

A new and very important request to the VERSIM community. L.R.O. Storey is suggesting that VERSIM puts forward an IAGA-resolution to encourage the development of open-access scientific software. While he is particularly interested in ray tracing software, which is very relevant to VERSIM-science, the resolution itself is broader to encompass the wider needs of IAGA. After discussion at the business meeting we agreed that this resolution could be valuable, and was unlikely to be negative. It was suggested that IAGA could provide a "web hosting" and archive service, to serve scientific software through their webpage. However, IAGA could also provide a portal to assist researchers to find software – that is, rather than having the software stored by IAGA, the IAGA website could point to others' websites, where the actual software will reside. This will be particularly important for the situation that groups will continue to refine and support software they have developed. This will encourage software authors to continue to be actively refine and improve software. In addition, it would be a "win win" for those researchers, in that it could help advertise the software tools, and encourage new collaborations.

Hence VERSIM will put a slightly modified resolution forward:

IAGA, noting

- that IAGA has played a prominent role in data management through its leadership of the Electronic Geophysical Year, and that ICSU has formed a new organization to support data management.
- that nevertheless some other aspects of scientific research in the IAGA disciplines are still hindered by the scarcity of software in the public domain.

recognizing

- that, despite increasing pressures on scientific budgets, there is a need to provide support for research in developing countries.
- that it is central to IAGA's charter to promote international science by encouraging world-wide open access to the means for pursuing research.
- that the necessary means include scientific software, in particular for modeling and for simulating physical processes (where excellent examples exist already in some areas of IAGA science), and for theoretical research.
- that while there is a special need for the creation of new large-scale software, there is also a need for the provision of open access to some existing software, and to support the dissemination of existing software to encourage new collaboration.

endorses

the recommendation made by the URSI/IAGA Joint Working Group on VLF/ELF Remote Sensing of the Ionosphere and Magnetosphere (VERSIM), in the light of its own need of software for electromagnetic ray-tracing, that IAGA and in particular its Working Group take an initiative similar to those already taken in data management, aimed now at making software for data analysis, modeling, simulation and theoretical research more freely available to the scientific community.

urges that

- an Interdisciplinary Committee be convened, with the following mandates:
 - to assess the needs for large-scale open-access software,
 - to determine how its development could be funded,
 - and to exhort the funding authorities to invite proposals.
- for smaller items of software, a public space be created at the IAGA website, where researchers can freely upload their code and download the code of their colleagues. That this section of the website is also used as a portal by which larger items of software can be listed and described.

Future of the working group (vote for continuation)

It is a requirement from our parent bodies (both IAGA and URSI) that the question of "whether our working group should continue" is put to each VERSIM business meeting, and reported back. This does not reflect a feeling that our particular working group should necessarily be wound up, it simply reflects the normal process of IAGA and URSI - there are some moribund working groups out there, and if they become too moribund it is hard to find people who will even "wind it up". Steve Cummer (USA) moved that the working group continue, seconded by Neil Thomson (New Zealand). There were no votes against.

IAGA Chair of the Working group (election)

We re-elect the IAGA co-chair every 2 years at the IAGA/IUGG meetings. Craig was elected to be the IAGA co-chair in 2003 at the Sapporo IUGG meeting. He stepped down and Janos Lichtenberger chaired this section of the meeting, thanking Craig for his efforts to date. Craig Rodger indicated that he would be willing to continue in the role, and then left the room. There were no other nominations, and Craig was unanimously re-elected.

Other business:

1. Janos Lichtenberger indicated he was not happy with the move to 15min presentations at this IAGA meeting. He noted that this appeared to be a consequence of the move to a shorter IAGA meeting. There was various discussion on this point. Some VERSIM members felt that a well-prepared scientific talk could be presented in 15min, while others felt that such talks were more like an advertisement than true scientific talks, and we were moving away from depth. In addition, it was suggested that in practice 15min was too short for a presentation, questions and the speaker transition, and that this simply meant that timetables were impossible to keep. Marek Golkowski suggested that giving speakers a choice of 15 or 20min might have value, but it was agreed this was probably impractical. Craig noted that this situation showed the value of the VERSIM workshops, where it is more practical to include depth.

2. As introductory information, our Brazilian colleagues from São Paulo (Brazil) indicated they were interested in hosting the 5th VERSIM workshop in 2012. There was general approval to this suggestion, noting that the final decision will be made at our 2010 workshop.

3. Colin Price noted an issue with the existing meeting, where some authors were not attending. He suggested there would be value in IAGA communicating with authors to confirm that will attend – session organisers could then attempt to "work around" missing authors, possibly by asking poster presenters to take up the missing oral slot. Colin indicated he had requested that IAGA email participants to confirm attendance, but they had not responded. Craig pointed out that session organisers were asked to email participants when putting the timetable together, using the contact information in the abstract submitted (although Colin indicated he did not necessarily have access to this information).

4. Craig also noted there would be value if IAGA contacted all the session organisers with information and requests, rather than picking one of the session organisers as a "lead". In the case where the lead

organiser is travelling, information does not always flow as needed. This could be corrected by simply sending it to everyone directly.

The VERSIM meeting broke up at around 1pm.