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差出人 maeda@serc.kyushu-u.ac.jp

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 \* ISWI Newsletter – Vol. 2 No. 2 9 January 2010 \*  
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 \* I S W I = International Space Weather Initiative \*  
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 \* This newsletter is published by Professor K. Yumoto \*  
 \* – Director of SERC (www.serc.kyushu-u.ac.jp) at Kyushu University \*  
 \* – PI of the MAGDAS Project \*  
 \* – Chair of ULTIMA (link near bottom of www.serc.kyushu-u.ac.jp) \*  
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 \* www.iswi-secretariat.org \*  
 \* (The ISWI website is maintained independently of the ISWI Newsletter.) \*  
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 \* The Editor-in-Chief of the ISWI Newsletter is Mr. George Maeda \*  
 \* (maeda@serc.kyushu-u.ac.jp). If you wish to contribute a piece to \*  
 \* the newsletter, you should write to him. \*  
 \* \*  
 \* Views expressed in this newsletter do not necessarily reflect official \*  
 \* positions of the ISWI ---- unless expressly stated. This newsletter \*  
 \* does not have any fixed release schedule -- it is issued when the need \*  
 \* arises. Eventually, it will be archived at some website so that \*  
 \* back issues can be accessed. \*  
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 \* Attachments will always be kept below 3 MB. \*  
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Attachment:  
 315 KB pdf --- Meeting Report and Book Review from  
 Space Research Today, December, 2009.

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Dear ISWI Participant:

IHY/ISWI have done much for IAU and COSPAR, and vice versa.  
 In a future newsletter, Dr Hans Haubold will say more about IAU.  
 Today, I attach two COSPAR-related items (that came from him):

1.  
 A Meeting Report (starts on page 55 of attached pdf):  
 "International Committee on Global Navigation Satellite Systems  
 (ICG) Meeting", 14-18 Sept 2009, St. Petersburg, Russian  
 Federation.
2.  
 A Book Review (starts on page 57 of attached pdf):  
 "Putting the 'I' in IHY: The United Nations Report for the  
 International Heliophysical Year 2007", edited by  
 B. J. Thompson, N. Gopalswamy, J.M. Davila, and H. J. Haubold.  
 [Review by Richard Harrison.]

Incidentally, this newsletter is intended for global distribution,  
 so that scientists and engineers in all countries can stay  
 informed of ISWI and other space weather related activities.  
 Please feel free to invite others to join the email mailing list

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Cordially yours,  
George Maeda  
Editor-in-Chief, ISWI Newsletter  
Fukuoka, Japan.

6-10 September 2010  
Catania, Italy  
Advances in Plasma Astrophysics (IAU 274)  
[www.iau.org/science/meetings/future](http://www.iau.org/science/meetings/future)

13-17 Sept 2010  
Buenos Aires, Argentina  
Jets at All Scales (IAU Symp 275)  
[www.iau.org/science/meetings/future](http://www.iau.org/science/meetings/future)

20-24 September 2010  
Turin, Italy  
Astrophysics of Planetary Systems: Formation  
Structure & Dynamical Evolution (IAU Symp. 276)  
Contact: sozetti@oatohfaf.it

27-30 September 2010  
University College Dublin, Belfield, Dublin, Ireland  
8th INTEGRAL Workshop  
Contact: lorraine.hanlon@ucd.ie

18- 22 October 2010  
Turin, Italy  
Global Navigation Satellite Systems (5th Mtg)  
[www.icgsecretariat.org](http://www.icgsecretariat.org)

18-22 October 2010  
Morelia, Mexico  
XII Latin American regional IAU Meeting  
[www.iau.org/science/meetings/future/regional/970/](http://www.iau.org/science/meetings/future/regional/970/)

13-17 December 2010  
Ouagadougou, Burkina Faso  
Tracing the Ancestry of Galaxies (IAU Symp. 277)  
[www.iau.org/science/meetings/future/](http://www.iau.org/science/meetings/future/)

28 June – 7 July 2011  
Melbourne, Australia  
Earth on the Edge: Science for a Sustainable Planet  
(XXV IUGG General Assembly)  
Contact: iugg2011@meetingplanner.com.au

13-17 December 2010  
San Francisco, USA  
AGU Fall Meeting  
[www.agu.org/meetings/](http://www.agu.org/meetings/)

17-21 April 2011  
Cape Town, South Africa  
2<sup>nd</sup> Middle East-Africa Regional UAU Meeting  
[www.iau.org/science/meetings/future/regional/982/](http://www.iau.org/science/meetings/future/regional/982/)

26-29 July 2011  
Chiang Mai, Thailand  
11<sup>th</sup> Asia-Pacific IAU Regional Meeting  
[www.iau.org/science/meetings/future/regional/981/](http://www.iau.org/science/meetings/future/regional/981/)  
2-7 May 2010  
Vienna, Austria  
EGU General Assembly  
<http://meetings.copernicus.org/egu2010/>

## Meeting Report

### **International Committee on Global Navigation Satellite Systems (ICG) Meeting, 14-18 September 2009, St Petersburg, Russian Federation**

[From Sharafat Gadimova & Hans J. Haubold,  
ICG Executive Secretariat, UNOOSA]

The Fourth Meeting of the International Committee on Global Navigation Satellite Systems (ICG) was held in St Petersburg, Russian Federation from 14 to 18 September 2009, to continue reviewing and discussing developments in global navigation satellite systems (GNSS) and to allow ICG members, associate members and observers to consider matters of interest. ICG also addressed GNSS science, innovative technology applications and future commercial applications. Representatives from industry, academia and governments shared views on GNSS compatibility and interoperability.

The meeting was hosted by the Government of the Russian Federation. Participants included individuals from China, Italy, Japan, the Russian Federation, the USA, the European Community and ESA, as well as the following international organizations: the Civil Global Positioning System Service Interface Committee (CGSIC), the European Position Determination System (EUPOS), the IAG Reference Frame Sub-Commission for Europe (EUREF), the International Bureau of Weights and Measures (BIPM), the International Federation of Surveyors (FIG), the International Association of Geodesy

(IAG), the International Earth Rotation and Reference Systems Service (IERS), the International Association of Institutes of Navigation (IAIN), the International GNSS Service (IGS), and the UN Office for Outer Space Affairs. The representatives of the International Civil Aviation Organization (ICAO), the UN-affiliated Regional Centres for Space Science and Technology Education located in Mexico, Brazil, Morocco and Nigeria, and Space Generation Advisory Council also attended the meeting.

ICG recalled that the General Assembly, in its resolution 63/99 of 5 December 2008, had noted with appreciation that ICG had been established on a voluntary basis as an informal body to promote cooperation, as appropriate, on matters of mutual interest related to civil satellite-based positioning, navigation, timing and value-added services, as well as with respect to the compatibility and interoperability of global navigation satellite systems, while increasing their use to support sustainable development, particularly in developing countries, and that it had held its first meeting in Vienna (in 2006), its second meeting in Bangalore, India (2007) and its third meeting in Pasadena, USA (2008).

ICG noted that its working groups were focusing on the following issues: compatibility and interoperability, enhancement of the performance of GNSS services, information dissemination and capacity building, and interaction with national and regional authorities and relevant international organizations. It also noted that substantive progress had been made in furthering the ICG and Providers Forum workplans that had been approved at previous ICG meetings. ICG noted that Working Group A (WG A) on compatibility and interoperability had organized two workshops in 2009 to explore further the issue of GNSS interoperability from users' perspectives before resuming its deliberations at the Fourth Meeting of the ICG. At the Fourth Meeting of the ICG, WG A made some amendments to its workplan, in particular,

regarding further elaboration and implementation of the principle of compatibility, consistent with the regulations and recommendations of the International Telecommunication Union (ITU), and proposed a new principle of transparency. At a minimum, WG A plans to hold an additional interoperability workshop in 2009 and a compatibility workshop in 2010.

Working Group B (WG B), on enhancement of the performance of GNSS services, discussed techniques for enhancement of GNSS services and the opportunity to monitor the ionosphere during the next solar maximum and its effects on GNSS receivers.

Working Group C (WG C), on information dissemination and capacity building, continued to develop a programme on GNSS applications and emphasized the participation of ICG in the International Space Weather Initiative (ISWI).

Working Group D (WG D), on interaction with national and regional authorities and with relevant international organizations, successfully initiated the work of its Task Forces to develop processes to align and maintain Geodetic and Timing references, which are fundamental to interoperability of GNSS for users. It was also agreed to hold additional workshops in between the annual ICG meetings.

The ICG and the Providers' Forum discussed the revision of their workplans. During a plenary session, ICG also decided to support a proposal for a multi-GNSS Demonstration Project in the Asia/Oceania region.

ICG accepted the invitation of Italy and the European Community jointly to host the Fifth Meeting in Turin, Italy, from 18 to 22 October 2010. The Office for Outer Space Affairs, as the Executive Secretariat of ICG and the Providers' Forum, will assist in the preparations for those meetings and for interim planning and working group activities. ICG noted the expression of interest by Japan to

host ICG-6 in 2011 and by China to host ICG-7 in 2012.

Further information on ICG and the Programme on GNSS Applications can be obtained from the United Nations Office for Outer Space Affairs, ICG Executive Secretariat at [www.icgsecretariat.org](http://www.icgsecretariat.org); e-mail: sharafat.gadimova@unvienna.org

## Publications

### *Advances in Space Research*

Information on COSPAR's own journal, *Advances in Space Research (ASR)* is given in *Space Research Today* No. 169, pp.115-116. Details on submission of manuscripts can be found under 'Guide for Authors' available on the Elsevier website: <http://ees.elsevier.com/asr>

The all important parameter for judging the quality of any journal is the Impact Factor. The Impact Factor for *ASR* continues to show a healthy rise year-on-year, and was 0.86 for 2008.

### **Galileo Issue in *Advances in Space Research*: Scientific Applications of the Galileo Navigation Satellite System**

Papers are invited for a special issue of *Advances in Space Research* entitled 'Scientific applications of Galileo and future Global Navigation Satellite Systems'. Articles derived from presentations (oral or poster) at the 2<sup>nd</sup> International Colloquium on Fundamental Aspects and Scientific Applications of Galileo and GNSS, co-sponsored by COSPAR, are encouraged as well as are any other original appropriate manuscripts. Foreseen topics include: first results derived using GIOVE data, Galileo system development and technology (ground receiver and satellites), experiments related to fundamental physics,

future uses of current and future GNSS data for time and frequency transfer, relationships between internal GNSS times, atmospheric sciences (ionosphere, troposphere, climatology), geodetic and geophysical applications (terrestrial reference frame, plate tectonics, high-rate GPS positioning), combined use of multi GNSS data, satellite laser ranging tracking, interoperability of various GNSS, precise orbit determination for GNSS and for LEO satellites, mathematical and theoretical challenges related to the availability of future GNSS data, algorithms and models, constellation maintenance and space debris.

Papers must be submitted electronically through the EES website (<http://ees.elsevier.com/asr>) under the category 'S.I. Galileo'. All manuscripts will be submitted to a standard peer-review process.

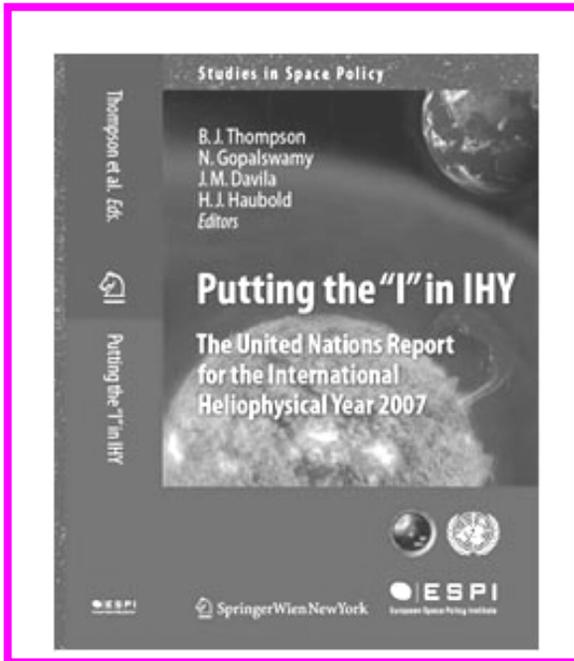
Accepted papers will be published in a special issue of *Advances in Space Research* (Elsevier, ISI Web of Science).

Deadline for submission is 1 March 2010. Authors are encouraged to contact the Guest Editor (Pascal Willis, [willis@ipgp.jussieu.fr](mailto:willis@ipgp.jussieu.fr)) for any additional information. They will be kept regularly informed on the progress of the special issue until its expected publication in late 2010. Papers will be available on the *ASR* website with a DOI as soon as they are accepted.

### Book Review

***Putting the 'I' in IHY: The United Nations Report for the International Heliophysical Year 2007***  
[Ed. B.J. Thompson, N. Gopalswamy, J.M. Davila & H.J. Haubold]. Springer 2009. ISBN 978-3-211-99179-4

We have often reported on the activities of the International Heliophysical Year (IHY) in *SRT*, perhaps driven slightly by the General Editor's



personal involvement in the IHY. However, if anyone needed evidence that the IHY was a truly international activity with a range of benefits from education, through the distribution of instruments, in particular in developing countries, the UNBSS workshops, the so-called Coordinated Investigation Programmes, the celebration of the 50 years since IGY – they need look no further. This is not a lengthy, dry report to decorate the shelves, but a ‘proper’, high quality book which is unique. It spells out the international programme heritage leading to the IHY very deftly and includes an impressive list of national reports, educational activities, scientific collaborations and so on, which serve to show the breadth and nature of the activities which were spread around the globe. In effect, scientists and engineers were able to use the IHY approach to tackle a range of things at an international and national level, and these varied dramatically from country to country and between scientific fields. I found this book refreshing; it not only demonstrates the value of such an international activity, but showed that the IHY almost had a party atmosphere to it. It also demonstrates nicely that such an activity should not dictate, but should simply

set up a framework which individuals can use in whatever way they wish, to the benefit of the field; the activities were extremely varied, but the global effect is one of raising awareness and driving the science forward.

[Reviewed by Richard Harrison]

## Letter to the Editor

### Aeronomic Nomenclature

[From W. Schröder (Geophysical Institute, Hechelstrasse 8, D-28777 Bremen, Germany)]

This author believes that there needs to be better clarity in the general use of aeronomic terms such as ‘noctilucent clouds’, ‘Polar Mesospheric Clouds’ and ‘Polar Mesospheric Summertime Echoes’ for practical use. The current uses of these terms are not always clear. Thus, in this letter, I present practical definitions of the classification of these phenomena.

Noctilucent clouds (NLC) were first observed after the great Krakatoa event in June 1885 by Backhouse and Jesse (*cf.* Schröder 1975, 2001). They can be observed by eye in the evening twilight and during night if the Sun is 6 degrees below the horizon. They appear at *ca.* 82.1 km between the times of transitions in the mesosphere between May and August of the northern hemisphere. In this respect, we can note them as indicators for the transition of mesospheric circulation (Schröder 1971, 1975). They can also be observed during the summer of the southern hemisphere. They can be seen as wave forms, whirls, bands, and rips and patches in blue-white light, with variations in form and brightness. They move with different velocities.

Polar Mesospheric Clouds (PMC) have been known to researchers for some decades (see Thomas & Olivero 2001, Olivero & Thomas 1986). They can be observed by satellites, and occur during summer seasons, typically thirty days before the summer solstice to seventy days afterwards. It seems that NLC