Variability of the Sun and Its Terrestrial Impact (VarSITI)
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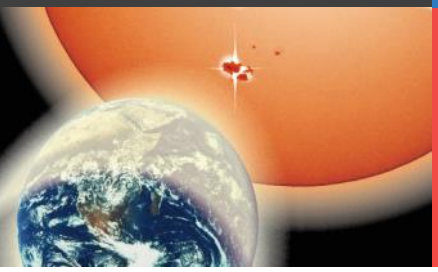

VarSITI Newsletter

Inside this issue

Project ROSMIC

Article 1:

The Swarm mission: Understanding the space environment in the changing Earth's magnetic field

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Claudia Stolle

Rune Floberghagen

The interaction between the upper atmosphere and the geomagnetic field is important for both of them. The location of ionospheric currents and the direction of plasma drifts, but also partly the direction of thermospheric winds depend on the shape of the geomagnetic field. Their amplitude and therefore also effective energy deposition through, e.g., Joule heating are governed by the field's strengths. In turn, currents that result from the atmospheric dynamo or from steep plasma density gradients amplify the magnetic field. Hence, simultaneous observations of the magnetic field in high precision and of plasma and thermospheric parameters have largely advanced our understanding of processes in the upper atmosphere (e.g., Olsen and Stolle, 2013; Lühr et al., 2011).

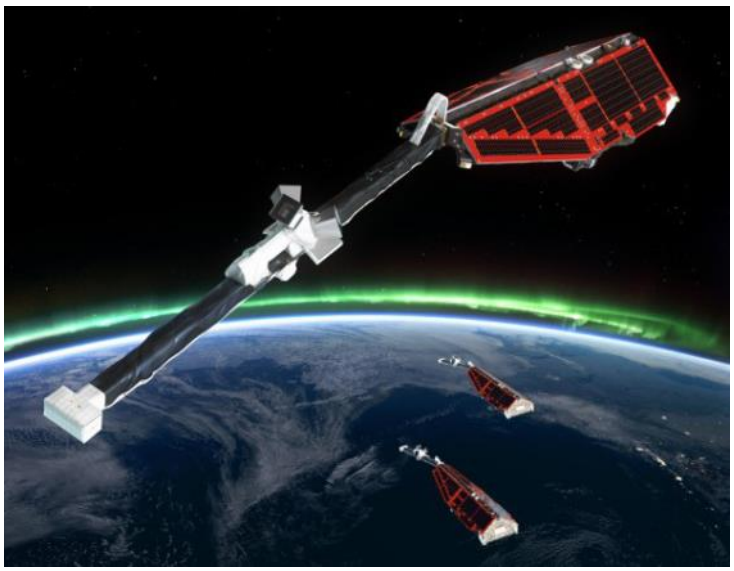

Figure 1. Artist's illustration of Swarm satellites (credits to ESA).

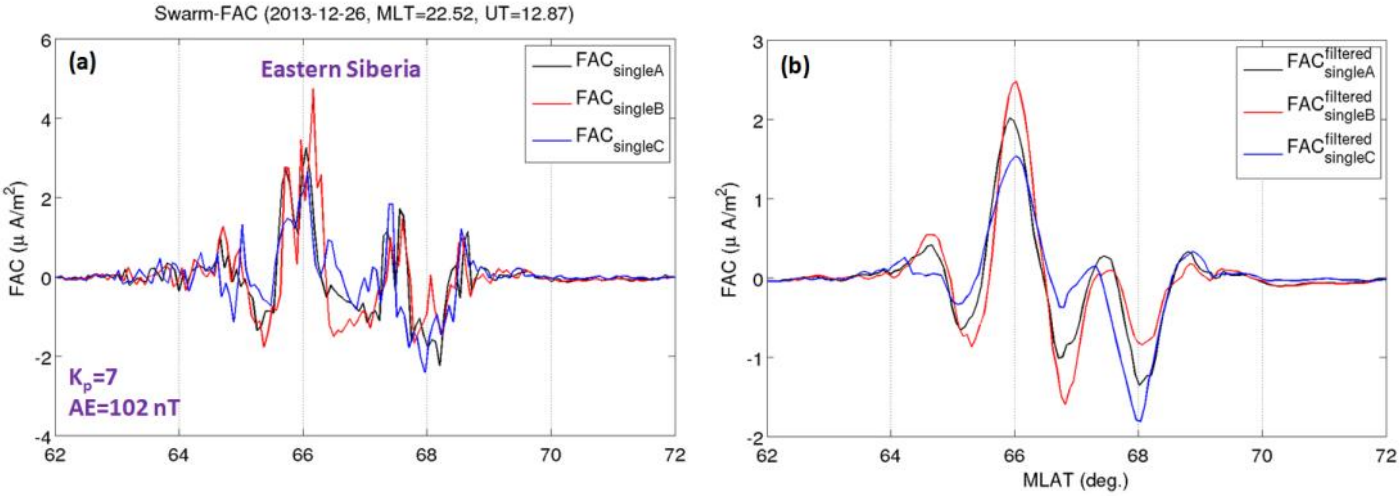

Figure 2. Swarm field aligned currents (FAC) from the three Swarm spacecraft, satellites flew in a row at about 500km. (a) unfiltered data (b) 20s low pass filtered.

On 22 November 2013, the Swarm satellite constellation mission being the fifth Earth Explorer mission of the European Space Agency (ESA, https://earth.esa.int/swarm) has been launched, opening a new era of observations in near Earth space. In the present constellation, two satellites at 470 km altitude are flying in formation with a longitudinal separation of 1.4° (160km) at the equator and a latitudinal lag of 9-13 seconds (60-105km). A third satellite orbits the Earth at about 510km altitude.

An international consortium of scientists and engineers from different disciplines has defined and designed its payload and data products (Friis-Christensen et al., 2006, Friis-Christensen and Floberghagen, 2013). The spacecraft provide high-precision magnetic field observations derived from a Fluxgate Vector and an Absolute Scalar magnetic field instrument. An electric field instrument consisting of a Thermal Ion Imager and a Langmuir Probe provides ion velocity and temperature, and electron density and temperature. Accelerometer and GPS precise orbit observations are used to derive thermospheric density and wind in the vicinity of the satellites, as well as the Total Electron Content.

Through its multi-parameter payload the Swarm mission provides great opportunity for more insights into the magnetosphere-ionosphere-atmosphere system, both for physical process understanding and space climatology given by its global and multi-year perspective. Some of the higher level products, in addition to those mentioned above, are highly suitable for monitoring space weather such as field-aligned currents, dayside equatorial eastward electric field, and an identifier of post -sunset equatorial plasma irregularities (Stolle et al., 2013). Figure 2 shows an example of field-aligned currents (FAC) in the auroral region. With the satellites flying in row at about 500km altitude and at a few minutes separation at the beginning of the mission, this example shows that large scale variations persist at least during satellite passes while small scale structures change rapidly in time.

First scientific results have been presented at the Third Swarm Science meeting in Copenhagen, Denmark during 19 – 20 June, 2014. Latest news on the Swarm mission and data access are available at https://earth.esa.int/swarm. On national level, a Special Priority Program ”Dynamic Earth” has been selected by the German Research Foundation (DFG) and is coordinated by Helmholtz Centre Potsdam GFZ German Research Centre for Geosciences. Funding period is expected to start in May 2015.

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Lühr, H. J. Park, P. Ritter, H. Liu, (2011) In-situ CHAMP observations of the ionosphere-thermosphere coupling, Space Sci. Rev., doi:10.1007/s11214-011-9798- 4.

Olsen, N. and Stolle, C., (2012) Satellite Geomagnetism, Annual Review of Earth and Planetary Sciences, 40:441-465, doi:10.1146/annurev-earth-042711-105540.

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Article 2:

Contributions of the Nobeyama Radioheliograph to VarSITI

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[2]Nobeyama Solar Radio Observatory, National Astronomical Observatory of Japan, Minami-saku, Nagano, Japan
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Satoshi Masuda


Kiyoto Shibasaki


Nat Gopalswamy

Nobeyama Radioheliograph (NoRH, Nakajima et al., 1994) is a radio interferometer specially designed to observe the full disk of the Sun at 17 and 34 GHz. Eighty-four antennas with a diameter of 80 cm were installed along a T-shape baseline (North - South: 250 m, East - West: 500 m). The spatial resolution is about 10 arcseconds and 5 arcseconds in 17 GHz and 34 GHz, respectively. The time resolution of NoRH is typically 1 second and 0.1 second for the event mode. NoRH continuously observes the full sun for about eight hours (~ 22:30 – ~ 6:30 UT) every day. The system has been quite stable and NoRH data are available in the period more than 99 % out of the total possible operational window.

The National Astronomical Observatory of Japan (NAOJ) has successfully operated NoRH during these two decades. From April 2015, the Solar-Terrestrial Environment Laboratory, Nagoya University will operate NoRH as a representative of the International Consortium for the Continued Operation of Nobeyama Raidoheliograph (ICCON). The current ICCON representatives are N. Gopalswamy (NASA), Y. Yan (NAOC), K. S. Cho (KASI), M. Ishii (NICT), K. Shibasaki (NAOJ) and S. Masuda (Nagoya University). ICCON is looking for additional support from the international community for the stable operation.

Figure 1. Panorama picture of Nobeyama Radioheliograph.

Data from NoRH have been used for studies of solar flares, oscillations and other phenomena on the Sun, and also of long-term solar activity. NoRH is also important for space weather and space climate studies during the current unusual low solar activity period.

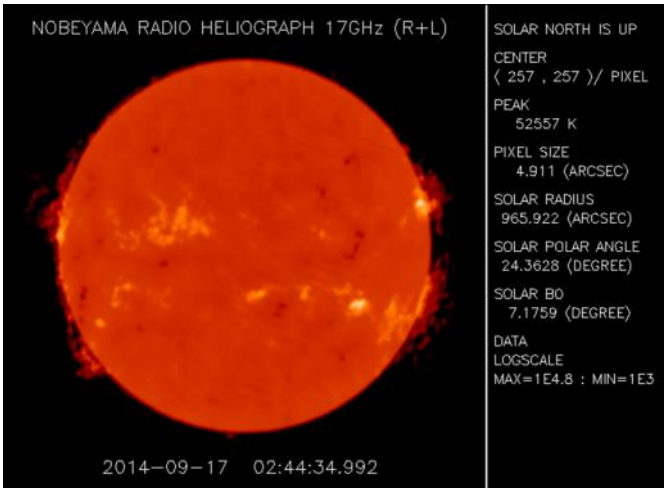

Figure 2. Sample of the full sun image taken with NoRH at 17 GHz.

A prominence eruption accompanied by a coronal mass ejection (CME) is usually launched in the lower corona. NoRH has demonstrated the ability to observe a prominence eruption starting in the low corona, and propagating out to heights in excess of 1 R_{sun}. There are a few advantages in in observing prominence eruptions using NoRH. It has a very wide field of view (within 2 solar radii including the solar disc). The observations are not affected by the weather (rain and cloud). Even if a prominence has a large velocity along the line of sight, the Doppler effect does not interrupt observations since microwaves are emitted by free-free continuum. This means NoRH can trace the eruption to large heights in the corona.

NoRH also contributes to the understanding the long-term activity change of the sun, thanks to the continuous data available over two decades. The location of the prominence eruption becomes a good indicator of the location of the magnetic neutral line. Using NoRH data, Shimojo (2013) showed change of the magnetic neutral line in the solar surface in 20 years and compared the behavior of the magnetic field in the current and the last solar cycles. To extend this kind of study, the continuous and homogeneous observations are valuable. The polar

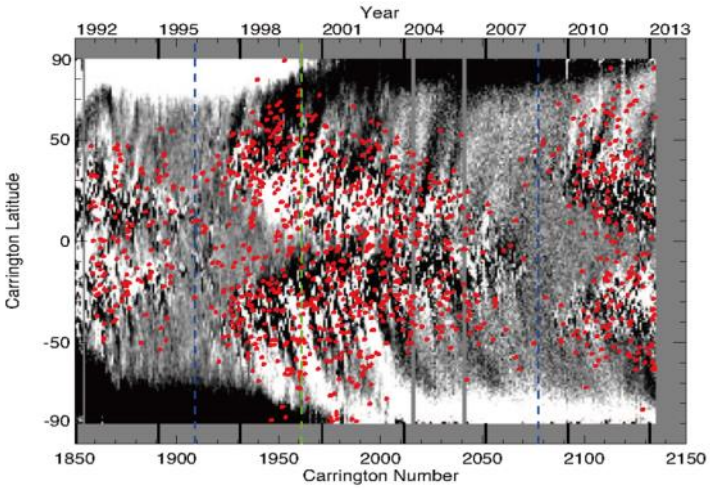

Figure 3. The butterfly diagram of the prominence activities and the photospheric magnetic field. The red dots indicate the dates and latitudes of the prominence activities and the grayscale shows the magnetic field distribution. The blue and green dashed lines indicate the solar minimum and maximum (M. Shimojo, PASJ, 65, S1, 16, 2013).

brightness of the Sun in microwaves provides important information on the solar polar field, which is useful in understanding the solar dynamo (Gopalswamy, N. et al., 2012; Shibasaki, K., 2013). The observation of the polar region at the next solar minimum is crucially important.

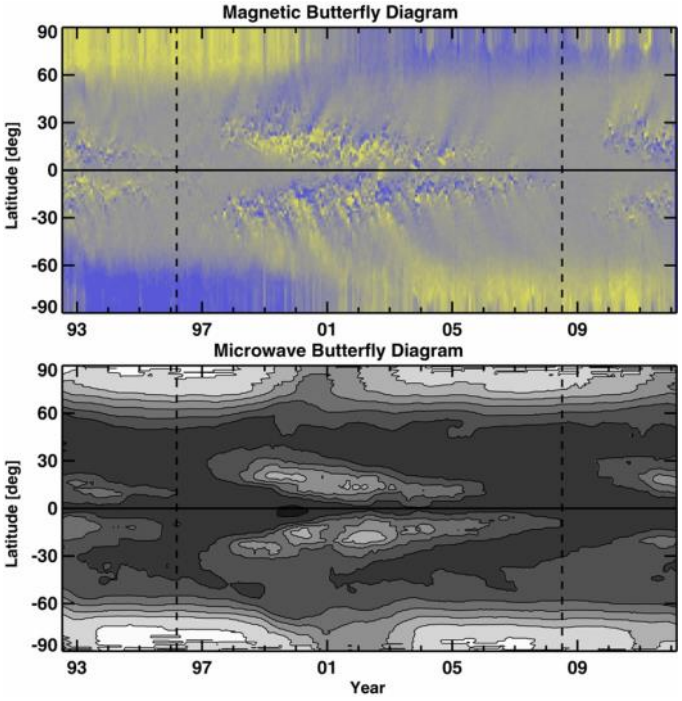

Figure 4. Top: the magnetic butterfly diagram from 1992 to 2012. Blue and yellow indicate positive and negative polarities, respectively. Bottom: the microwave butterfly diagram constructed from the Nobeyama Radioheliograph images at 17 GHz (N. Gopalswamy et al., ApJL, 750, L42, 2012).

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Article 3

Collaboration between ICSU World Data System and SCOSTEP/VarSITI

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Takashi Watanabe


Rorie Edmunds

The International Council for Science (ICSU) has a long history of collaborating internationally on the archiving and provision of scientific data. The World Data Centres (WDCs) and the Federation of Geophysical and Astrophysical Data Services were established by ICSU during the International Geophysical Year (IGY). Building on the legacy of these two bodies, ICSU established the World Data System (WDS) in October 2008 to expand its data activities to a wider disciplinary and geographic base. The principal objective of ICSU-WDS is to enable universal and equitable access to quality-assured scientific data, data services, products, and information for the long term. The general concept of ICSU-WDS is illustrated in Figure 1. The governing body of ICSU-WDS is its Scientific Committee (WDS-SC), which consists of leading scientists actively involved in Data and/or Computer Sciences, and directors of WDS data services covering a broad range of scientific fields. The WDS International Programme Office that assists the WDS-SC was inaugurated in 2012 in Tokyo, Japan, and is hosted by the National Institute of Information and Communications Technology.

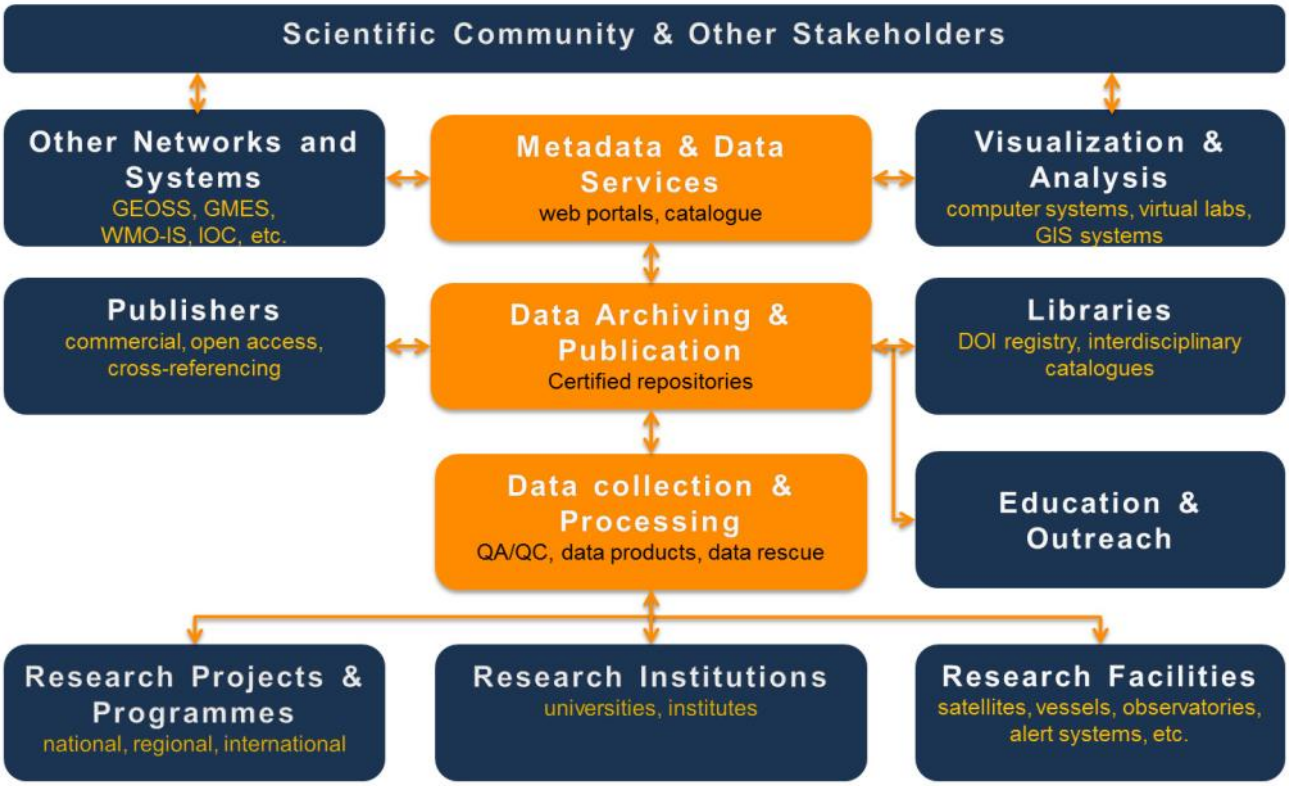

Figure 1. Relationship between functions of ICSU-WDS (orange boxes) and other scientific communities and stakeholders (blue boxes).

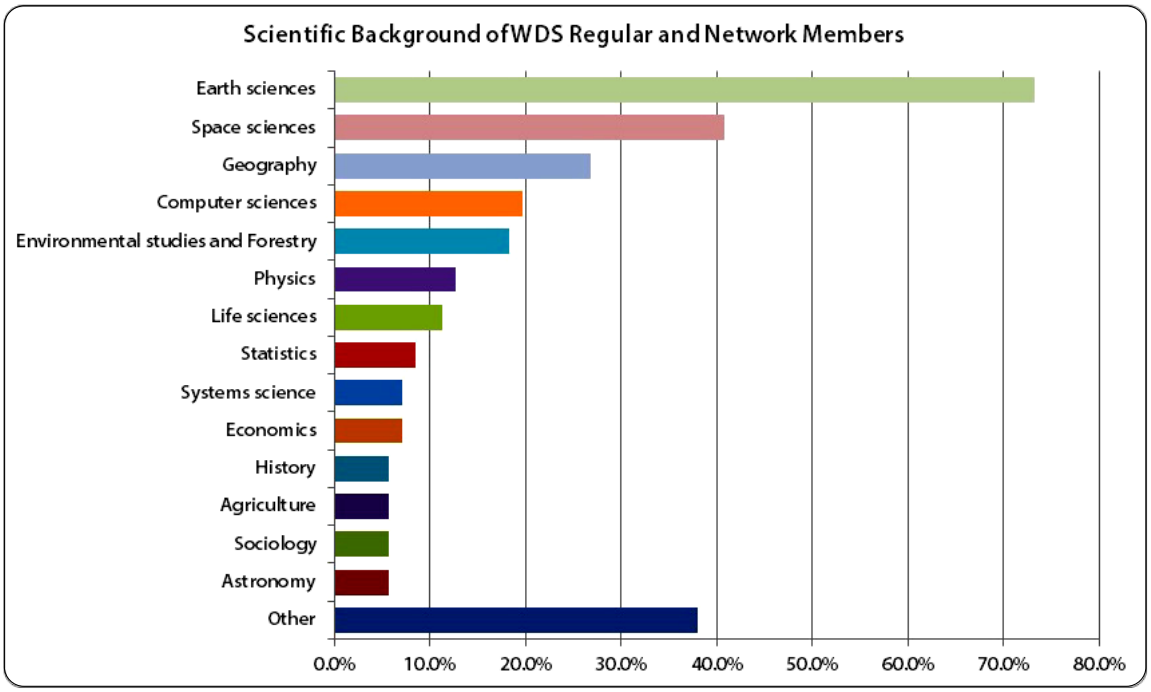

Figure 2. Distribution of scientific background of current Regular and Network Members of ICSU-WDS.

WDS membership consists of four categories: Regular, Network, Partner, and Associate. By joining ICSU-WDS as a Member, organizations can improve their local and international recognition, increase their disciplinary and interdisciplinary user base, display their commitment to data and service quality and to long-term data curation, and facilitate publication and citation of their data. Currently, ICSU-WDS has 88 Members. The distribution of scientific backgrounds of WDS Regular and Network Members is shown in Figure 2. Among these Members, about 20 Regular Members (mainly former WDCs) and several Network Members, including the International Space Environment Service and INTERMAGNET, are involved in scientific data activities that are relevant to SCOSTEP. More information on ICSU-WDS, in particular on its membership categories and on how to become a WDS Member, can be obtained through the WDS website: https://www.icsu-wds.org/.

The World Data System has recently forged closer ties with its sister organization under the auspices of ICSU, the Committee on Data for Science and Technology (CODATA). This has culminated in the co-hosted international conference series—SciDataCon—the first of which (SciDataCon 2014; www.SciDataCon2014.org) will be held in New Delhi, India on 2–5 November 2014 with the theme 'Data Sharing and Integration for Global Sustainability'. A SCOSTEP-related session entitled 'Development of Earth and Space Science Data Networks' will be held on 4 November.

SCOSTEP has founded a number of international research programmes since the IGY era, and has launched the new VarSITI (Variability of the Sun and Its Terrestrial Impact) programme for 2014–2018. With interdisciplinary analysis of data from a variety of solar–terrestrial phenomena an essential research activity in these programmes, 'data' has been an important keyword. To support this activity, several interdisciplinary data networks have been initiated—for example, VxOs, ESPAS, and the Interuniversity Upper atmosphere Global Observation NETwork—some of which include WDS Members. Moreover, ICSU-WDS is to establish a multidisciplinary Knowledge Network that will provide further support to data activities, and collaboration with SCOSTEP will be important to realize this endeavour. To promote global cooperation in solar–terrestrial research containing a strong data element, a joint SCOSTEP/VarSITI–WDS workshop is planned for the autumn of 2015 in Japan, also involving data scientists from the CODATA community.

Article 4:

The creation of the database of images of old analogue magnetograms of Geophysical Observatory "Paratunka", Kamchatka, Russia, 1967-2006

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Kamchatka, RUSSIA

Sergey Y. Khomutov

The historical pre-digital data about magnetic field are very important for the investigation of old events. These data are contained in analogue magnetograms obtained at the observatories during the last century. In most cases the hourly data were obtained from analog magnetograms according to standard IAGA. However, these photorecords can provide the magnetic data with high temporal resolution up to one minute.

Regular magnetic measurements are carried out at Paratunka Geophysical Observatory of IKIR FEB RAS (http://www.ikir.ru/en/About/index.html), Kamchatka, Russia, since 1967. An archive of analogue magnetograms was created. However, it is inaccessible to the world scientific community and inconvenient for digital processing. There is also the possibility of losses due to the presence of only a single copy. The usual solution of these problems is to obtain the graphic images of magnetograms. The importance of the problem led us to the project, whose goal was to create the database of the images of analogue magnetograms and complementary information (baseline values and scale coefficients) for Paratunka Geophysical Observatory (IAGA code is PET) for 1967-2006 and to transfer the database to the WDC (Moscow and Kyoto). This project was supported by SPeCIMEN/VarSITI in the end of February 2014.

Analogue magnetograms of Paratunka Observatory are typical daily records of magnetic field variations on photopaper with the width of 28.5 cm and the length of about of 50 cm with title and other additional information. Three images were obtained from every standard magnetogram (beginning, middle, and end), with about three-hour overlapping. Every image includes a scale with the length of 50 mm. An example of magnetogram images for January 31 – February 01, 1987 is presented in Fig.1.

Normally every image is a TIFF format file with the resolution of 300×300 dpi and of gray color (8 bits per pixel). For the magnetograms since 1998 the images of magnetogram pieces were joined into a single daily

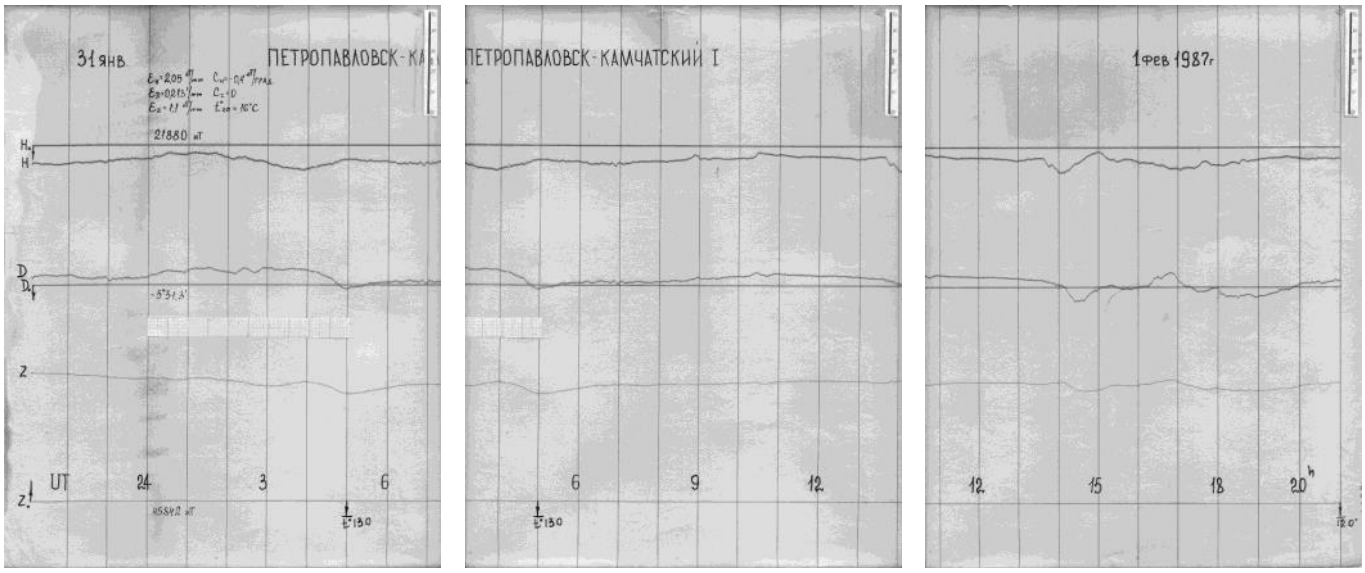

Figure 1. An example of images, which was obtained for a magnetogram of Paratunka Observatory for Jan 31 – Feb 01, 1987.

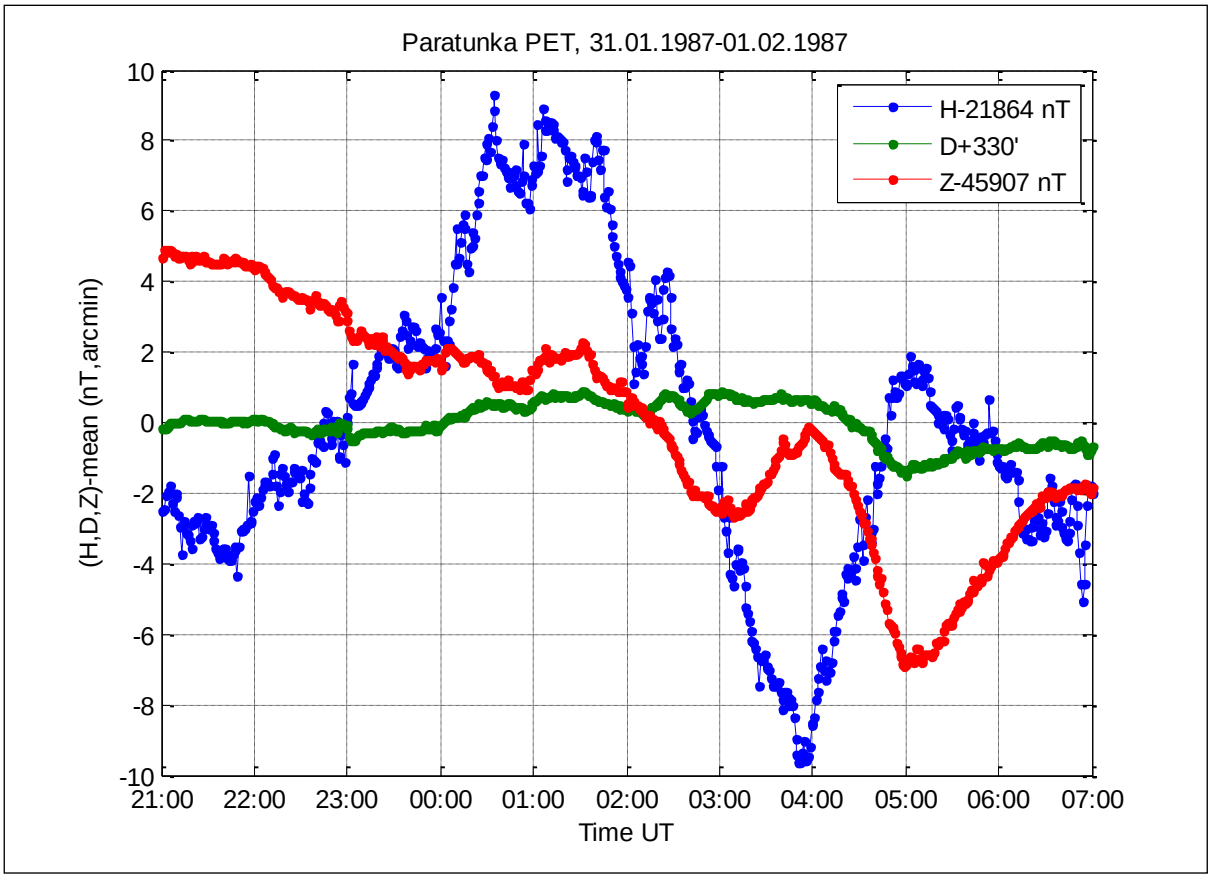

Figure 2. An example of digitization of the magnetogram image presented in Fig. 1: minute values of full H,D,Z components are presented.

image. Total number of images in the database is about 41100, the total size of the database is about of 305 Gb. The database of images was sent to the WDC on Solar-Terrestrial Physics (Moscow, Russia) and to the WDC for Geomagnetism (Kyoto, Japan).

The obtained images are suitable for the following digitization and for obtaining of magnetic variation with the rate grater than one hour (IAGA Standard). For example, in Fig.2 the minute values of H,D,Z variations are presented. These values were obtained for the first image of the magnetogram in Fig. 1 using special routine WFD for digitization of magnetograms (Waveform digitizer, v.2.1 b4, A.Burtsev, M.Zhizhin, 2003).

Highlight on Young Scientists 1:

Simulations of electromagnetic ion cyclotron rising-tone emissions in the inner magnetosphere

Masafumi Shoji
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Nagoya University, Nagoya, Japan

Masafumi Shoji

My research is simulation studies on the wave-particle interactions in the inner magnetosphere. The nonlinear wave particle interaction is one of the most important topics for ERG mission.

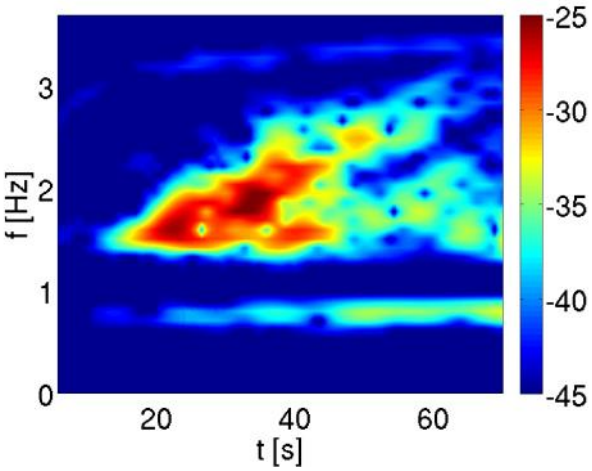

Figure 1. EMIC rising tone emission reproduced by ion hybrid simulation.

Especially, coherent rising-tone electromagnetic ion cyclotron emissions can cause a drastic change of the space plasma environment. To understand the nonlinear generation mechanism of the EMIC rising-tone emissions, we perform a self-consistent particle in cell simulation, the so-called ion hybrid simulation. The hybrid simulation solves ions as particles interacting with the electromagnetic field, while the electron is treated as mass-less fluid. A cylindrical dipole magnetic field model with realistic parameters for inner magnetosphere is used to cause the rising-tone emissions by ion temperature anisotropy. We successfully reproduced the generation of the EMIC rising-tone emissions as shown in Figure 1, showing good agreement with the in-situ observation and the theory. The velocity distribution function of the energetic protons is drastically modulated and a substantial number of energetic protons are fallen into loss cone, resulting in the proton aurora. We also find that the triggering process of the rising-tone emissions is controlled by the two different resonant currents induced by the phase organization of the protons interacting with the EMIC waves.

VarSITI

Meeting Report 1:

VarSITI Session at AOGS

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Solar–Terrestrial Environment Laboratory, Nagoya University, Nagoya, Japan

Kazuo Shiokawa

Figure 1. The VarSITI session at AOGS 2014.

The VarSITI session (ST26) was held at the Asia Oceania Geosciences Society (AOGS) 2014 conference in Sapporo, Japan on July 30-31, 2014. Twenty-six oral and seventeen poster presentations were made in this session, forming one of the longest sessions in the AOGS 2014 Meeting. This session gave a forum to discuss on-going and planned scientific projects related to VarSITI, in order to make coordination of various projects between the sun and the earth. The presentations covered the field of ground and satellite observations, theory, modeling, and applications for space weather forecast, as well as capacity building. The project names discussed in this session were, for example, Hinode, Solar-C, solar neutron monitors, ERG, Geotail, Akebono, Sounding Rockets, EAR, MAGDAS, GMDN, CHAIN, NICT Space Weather, SuperDARN, OMTI, AVON, GPS receivers, Antarctic lidar, GAIA, WDS, and IUGONET.

Project ROSMIC

Meeting Report 2:

5th IAGA/ICMA/CAWSES Workshop

Petra Koucka Knizova
Department of Aeronomy, Institute of Atmospheric Physics, Academy of Sciences of the Czech Republic, Prague, Czech Republic

Petra Koucka Knizova

Figure 1. A photograph from the 5th IAGA/ICMA/CAWSES Workshop.

The 5th IAGA/ICMA/CAWSES workshop was held in the Akdeniz University in Antalya, Turkey, August 11-15, 2014. The meeting was attended by a total of 60 senior and young scientists from 12 countries. During 5 days of the workshop the participants presented 60 papers, from which 11 were solicited presentations. The meeting was open for graduate students from Akdeniz University. The meeting obtained financial supports from the following organisations: Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) – project VarSITI, International Association of Geomagnetism and Aeronomy (IAGA) and International Commission on the Middle Atmosphere (ICMA).

This meeting provided an excellent opportunity for the scientists to discuss the progress done to date in the field of the upper atmosphere-ionosphere and come up with suggestions and ideas for further research on the vertical coupling of the atmosphere-ionosphere system.

Project SEE/ISEST

Meeting Report 3:

14th European Solar Physics Meeting

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School of Physics,
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Dublin, Ireland

Shaun Bloomfield

The 14th European Solar Physics Meeting (ESPM-14; http://www.espm14.ie) was held in Trinity College Dublin, Ireland from 8th to 12th September 2014. The ESPM conference series is organized every three years by the European Solar Physics Division (ESPD) and aims to highlight all aspects of modern solar physics research, including activities in both observation and theory that span from the interior of the Sun out into the wider heliosphere.

ESPM-14 played host to 240 scientists (~1/4 of which were PhD students) who presented more than 180 posters, 68 contributed talks and 23 invited reviews. The internationally inclusive nature of ESPM-14 was clearly demonstrated by the participation of colleagues from countries outside Europe, including Australia, Brazil, India, Japan, Mexico, Republic of (South) Korea and the United States of America. Thanks to the SCOSTEP/VarSITI program, ESPM-14 provided financial support to 2 registered PhD students and 3 junior postdoctoral researchers from developing countries.

Figure 1. Photograph of the Welcome Reception for the 14th European Solar Physics Meeting in the Dining Hall of Trinity College Dublin, Ireland.

VarSITI

Meeting Report 4:

VarSITI Lunch-Time Meeting at COSPAR 2014

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Solar–Terrestrial Environment Laboratory, Nagoya University,
Nagoya, Japan

Kazuo Shiokawa

A lunch-time VarSITI meeting was held on August 4, 2014 during the COSPAR 2014 Assembly. About 50 people attended (see photo). K. Shiokawa (VarSITI and SPeCIMEN), D. Nandi (SEE), J. Zhang (ISEST/Minimax24), and W. Ward (ROSMIC) made presentations to introduce and update VarSITI Projects. The slides of these presentations are available at http://www.varsiti.org/. M. Guhathakurta reported the possibility of VarSITI-related funding in the US from NASA and NSF. D. PallamRaju reported on the current status of SCOSTEP-related funding situation in India including CAWSES and VarSITI. Collaboration between VarSITI and NASA ILWS activity was encouraged by the audience. M. Grande announced the SCOSTEP capacity-building activity to send young scientists and students from developing countries to some host institutions for a few months.

Figure 1. VarSITI lunch-time meeting at COSPAR 2014.

Meeting Report

Project SPeCIMEN

Meeting Report 5:

Geospace Revisited

Ioannis A. Daglis
University of Athens,
Athens, Greece

Ioannis A. Daglis

Figure 1. Group photograph of participants at Geospace Revisited: a joint Cluster/MAARBLE/Van Allen Probes Conference.

"Geospace Revisited: a joint Cluster/MAARBLE/Van Allen Probes Conference" (http://geospacerev.space.noa.gr) was held in Rhodes, Greece, on 15 to 20 September 2014, and was attended by 160 participants from 26 countries - mainly from USA, Japan, China and the European Union. The central aim of the conference was to revisit long-standing issues of geospace dynamic phenomena through investigations with space and ground-based measurements combined with theory, models and simulations. The keynote talk on James Van Allen and the discovery of the radiation belts by Stamatios Krimigis opened the conference, which included six plenary sessions, with topics ranging from upstream transient phenomena and processes in the magneto-tail to ring current and radiation belt dynamics. 95 oral and 70 poster presentations delved into the problems of solar-terrestrial coupling and the complex interplay of particles, fields and waves in geospace and kept the interest of the participants unabated throughout the week. The conference included also two well-attended splinter sessions on Radiation Belt Specification and on the VarSITI/SPeCIMEN project of SCOSTEP, as well as several other mission and project splinter meetings.

The conveners Ioannis A. Daglis (University of Athens) and Philippe Escoubet (European Space Agency) agreed on a special issue of Annales Geophysicae with papers of the conference.

Upcoming meetings related to VarSITI

Conference	Date	Location	Contact Information
SCOSTEP's 13th Quadrennial Solar-Terrestrial Physics Symposium (STP 13)	Oct. 12-17, 2014	Xi'an, Shanxi, China	http://stp13.csp.escience.cn/dct/page/1
New Challenges in the Study of the Impact of Solar Variability and on Climate	Oct. 13-17, 2014	Trieste, Italy	
XVIII-All-Russian annual conference with international participation "Solar and solar-terrestrial physics - 2014" devoted to the 175th anniversary	Oct. 20-24, 2014	Pulkovo, Russia	
SciDatCon 2014 (International Conference on Data Sharing and Integration for Global Sustainability)	Nov. 2-5, 2014	New Delhi, India	http://www.scidatacon2014.org/
12th International Conference on Substorms (ICS-12)	Nov. 10-14, 2014	Ise-Shima, Japan	http://www.stelab.nagoya-u.ac.jp/ICS-12/
International School on Space Weather, GNSS, GIS Internet and Data base	Nov. 10-21, 2014	University of Koudougou, Burkina Faso	
The 3rd AOSWA Workshop/ 2015 UN/Japan Workshop on Space Weather	Mar. 2-5, 2015	Fukuoka, Japan	http://aoswa.nict.go.jp/workshop_3/index.html
Inner Magnetosphere Coupling III (IMC III)	Mar. 23-27, 2015	Los Angeles, CA, USA	http://www.i-mp.org/conference/i-mp_2015/
26th General Assembly of the International Union of Geodesy and Geophysics (IUGG) 2015	Jun. 22-July2, 2015	Prague, Czech Republic	http://www.iugg2015prague.com/
14th International Symposium on Equatorial Aeronomy	Oct. 19-23, 2015	Bahir Dar, Ethiopia	http://www.bdu.edu.et/isea14/

Short News 1:

2015 UN/Japan Workshop on Space Weather

Akimasa Yoshikawa

Akimasa Yoshikawa
ICSWSE (International Center for Space Weather Science and Education) of Kyushu University, Fukuoka, Japan

With the support of numerous sponsors, the United Nations and the International Center for Space Weather Science and Education (ICSWSE, Kyushu University, Japan) are hosting this space weather workshop during 2-6 March 2015 in Fukuoka, Japan. Travel support is available from the UN based on the quality of registrant's abstract. There is no registration fee. Online registration starts on 01 September 2014 at this website:

http://www.unoosa.org/oosa/en/SAP/act2015/japan/index.html

[Note: This workshop will be conducted in parallel with other workshops, the primary one being the 2015 Workshop of AOSWA (Asia Oceania Space Weather Alliance).]

The purpose of the VarSITI newsletter is to promote communication among scientists related to the four VarSITI Projects (SEE, ISEST/MiniMax24, SPeCIMEN, and ROSMIC).

The editors would like to ask you to submit the following articles to the VarSITI newsletter.

Our newsletter has five categories of the articles:

1. Articles— Each article has a maximum of 500 words length and four figures/photos (at least two figures/photos). With the writer's approval, the small face photo will be also added.

   On campaign, ground observations, satellite observations, modeling, etc.

2. Meeting reports—Each meeting report has a maximum of 150 words length and one photo from the meeting.

   On workshop/conference/ symposium report related to VarSITI

   With the writer's approval, the small face photo will be also added.

3. Highlights on young scientists— Each highlight has a maximum of 200 words length and two figures. With the writer's approval, the small face photo will be also added.

   On the young scientist's own work related to VarSITI

4. Short news— Each short news has a maximum of 100 words length with one photo and a caption.

   Announcements of campaign, workshop, etc.

5. Meeting schedule

Category 3 (Highlights on young scientists) helps both young scientists and VarSITI members to know each other. Please contact the editors if you know any recommended young scientists who are willing to write an article on this category.

TO SUBMIT AN ARTICLE

Articles/figures/photos can be emailed to the Newsletter Secretary, Ms. Mai Asakura (asakura_at_stelab.nagoya-u.ac.jp). If you have any questions or problem, please do not hesitate to ask us.

SUBSCRIPTION - VarSITI MAILING LIST

The PDF version of the VarSITI Newsletter is distributed through the VarSITI mailing list. The mailing list is created for each of the four Projects with an integrated list for all Projects. If you want to be included in the mailing list to receive future information of VarSITI, please send e-mail to "asakura_at_stelab.nagoya-u.ac.jp" (replace "_at_" by "@") with your full name, country, e-mail address to be included, and the name of the Project you are interested.

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