

## 国際宇宙天気イニシアチブプロジェクトへの日本の貢献

### Japan's Contribution to the ISWI

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In February 2009, the International Space Weather Initiative (ISWI) was proposed as a new agenda item to be addressed by the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space, United Nations. Through the ISWI, coordinated international research would continue on universal processes in the solar system that affected the interplanetary and terrestrial environments, and there would be continued coordination on the deployment and operation of new and existing instrument arrays aimed at understanding and predicting the impacts of space weather on the Earth and the near-Earth environment. The ISWI agenda item was endorsed by the Committee in June 2009 and by the General Assembly in October 2009. The ISWI would be governed by a Steering Committee and would be supported by the United Nations, ESA, NASA, JAXA and the International Committee on Global Navigation Satellite Systems.

The objectives of ISWI are to develop the scientific insight necessary to understand the physical relationships inherent in space weather, to reconstruct and forecast near-Earth space weather and to communicate this knowledge to scientists and to the general public. This would be accomplished by (a) continuing to expand and deploy new and existing instrument arrays, following the successful practices of the International Heliophysical Year (IHY) 2007, (b) promoting data coordination and analysis to develop predictive models using ISWI data from the instrument arrays to improve scientific knowledge and to enable future space weather prediction services and (c) continuing to promote knowledge of heliophysics through training, education and public outreach.

In Japan, the STPP (Solar Terrestrial Physics Program) subcommittee of the Science Council of Japan is participating in ISWI as a follow-on program of the IHY (2006-2009). The Chief of the STPP subcommittee (Professor Kiyohumi Yumoto of Kyushu University) and other members of the subcommittee are moving forward to construct new Japan's programs of (a) the instrument array, (b) the data coordination and analysis, and (c) training, education and public outreach. In 2009, four instrument array programs, i.e., the Continuous H-alpha Imaging Network (CHAIN), the Global Muon Detection Network (GMDN), the Magnetic Data Acquisition System (MAGDAS), and the Optical Mesosphere Thermosphere Imagers (OMTIs) were already proposed by Dr. S. Ueno and Prof. K. Shibata, Kwasan and Hida Observatories, Kyoto University, Prof. K. Munakata, Shinshu University, Prof. K. Yumoto, Space Environment Research Center, Kyushu University (SERC), and Prof. K. Shiokawa, Solar-Terrestrial Environment Laboratory, Nagoya University (STEL), respectively. The existing databases of Solar Wind, Space Environment (satellite measurements), and Geomagnetic Field will be provided by Prof. M. Tokumaru, (STEL), Dr. T. Obara, Japan Aerospace Exploration Agency (JAXA), and Prof. T. Iyemori, WDC for

Geomagnetism, Kyoto University, respectively, to contribute to the data coordination and analysis programs for ISWI in Japan. Public outreach will be carried out through the Network of International Space Environment Services (ISES) of the National Institute of Information and Communication Technology (NICT, Dr. S. Watari). SERC, Kyushu University will publish the ISWI Newsletter by e-mail and mail. Distribution of the Newsletter to UN Member States will be supported through mailing system of the United Nations, Office for Outer Space Affairs (UNOOSA).

To create awareness of ISWI in Japan, the STPP subcommittee organized an ISWI-Japan Kick-Off Meeting at Kyushu University that took place in March of 2010. Soon after that, the ISWI-Japan International Symposium will be held at Makuhari in May of 2010 with the help of the Japan Geophysical Union (JpGU). This symposium is held every year in Japan during ISWI (2010 through 2012).

Keywords: instrument arrays, data coordination and analysis, training, education and public outreach, Solar Wind, Space Environment, Geomagnetic Field