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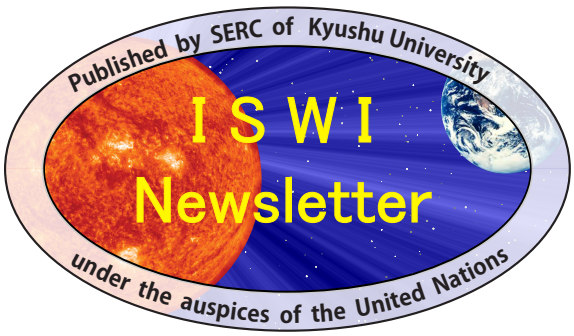
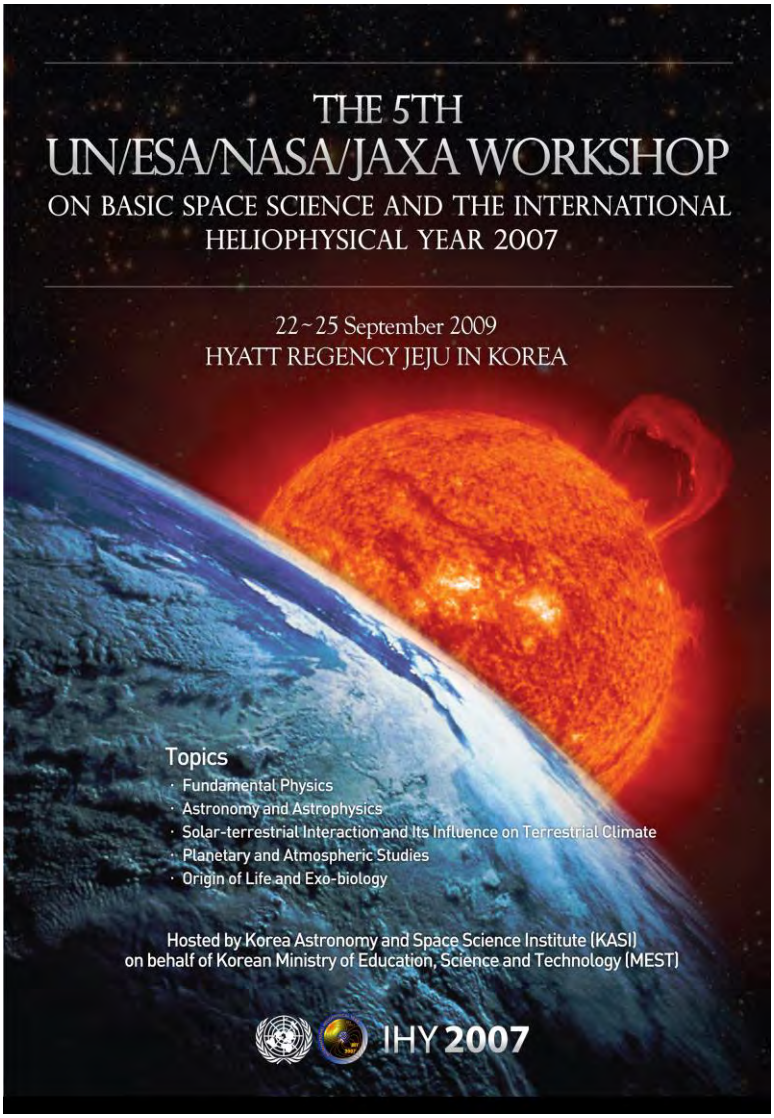


The pages are numbered from 1 to 5.
The "Abuja ISWI Resolution" starts
on page 3.



20 Years of United Nations Basic Space Science Initiative (1991-2012)

The United Nations Basic Space Science Initiative (UBSSI) is a long-term effort for the development of astronomy and space science through regional and international cooperation. It covers an active transfer of technology and knowledge, and the role of education on a worldwide basis, particularly in developing nations. To address the status of astronomy in Asia and the Pacific, Latin America and the Caribbean, Africa, and Western Asia, a series of workshops on Basic Space Science (BSS) was carried out between 1991 and 2004 in the following countries: India (1991), Costa Rica and Colombia (1992), Nigeria (1993), Egypt (1994), Sri Lanka (1995), Germany (1996), Honduras (1997), Jordan (1999), France (2000), Mauritius (2001), Argentina (2002), and China (2004). Detailed information is available at (http://neutrino.aquaphoenix.com/un-esa/). In line with one of the major recommendations emanating from these workshops, the establishment of astronomical facilities in developing nations for research and education programmes at the university level was initiated.

Pursuant to resolutions of the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) and its Scientific and Technical Subcommittee, since 2005, these workshops focused on the International Heliophysical Year 2007 (IHY2007) and took place in the following countries: the United Arab Emirates (2005), India (2006), Japan (2007), Bulgaria (2008), the Republic of Korea (2009). More detailed information can be obtained from the website of the United Nations Office for Outer Space Affairs (UNOOSA) at: (http://www.unoosa.org/oosa/SAP/bss/ihy2007/index.html).

After deliberations at the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS), beginning in 2010, the workshops focus on the International Space Weather Initiative (ISWI) as part of its three-year work plan. Detailed information is available at (http://www.stil.bas.bg/ISWI/). Workshops on the ISWI have been scheduled to be hosted by Egypt (2010) for the benefit of developing countries in Western Asia, Nigeria (2011) for Africa, and Ecuador (2012) for Latin America and the Caribbean. Currently, 14 IHY/ISWI instrument arrays with more than 600 instruments are operational in 95 countries.

In addition, to aid the global navigation satellite systems (GNSS) users community in dealing with the effects of space weather and ionospheric disturbances on GNSS performance, ISWI is supported by the programme on GNSS applications implemented by the United nations Office for Outer Space Affairs in its capacity as the Executive Secretariat of the International Committee on GNSS (ICG). ICG is contributing to and co-sponsoring several of the ISWI activities. Detailed information is available at the ICG Information portal at (http://www.icgsecretariat.org).

UN/Nigeria Workshop on the International Space Weather Initiative,

Abuja, Nigeria, 17-21 October 2011

Further to the achievements reported at and the negotiations undertaken during the UN/Egypt Workshop on ISWI, organized in 2010, the following Resolution was unanimously adopted by the participants of the UN/Nigeria Workshop on ISWI, hosted by Nigeria in 2011. First results of the implementation of the following Resolution will be reported at the UN/Ecuador Workshop on ISWI, hosted by Ecuador in 2012.

ABUJA ISWI RESOLUTION

1. The United Nations should lead, with the active support of Japan and relevant scientific organizations, an international effort to establish an International Centre for Space Weather Science and Education in an existing national educational and research institution. Space

Environment Research Center (SERC) at Kyushu University (http://www.serc.kyushu-u.ac.jp/index_e.html), Japan, offered to host this Centre.

2. This Centre should grow into a network of national and regional centers, focusing on space weather, around the world – all dedicated to advancement of space weather research and education.

3. The Centre would provide Capacity Building and technical guidance to nations that wish to engage in space weather science and education. Capacity Building consists of three main components:

(i) Training/deployment on instrumentation. Space weather monitoring, for either operations or research, requires continuous data recording. This data come from precision instruments, either on the ground or in space. Such instruments require proper maintenance. Recent reviews did show that the number of individuals skilled for operating and maintaining these specialized instruments is declining on a global scale.

(ii) Training on data analysis. Raw data must be inspected, corrected, calibrated, interpreted, transformed, and archived. Most of these activities require sophisticated software and long-term experience handling this data. Using software demands advanced training for users of the data.

(iii) Education/training on space weather science. With processed and archived data available, the final process is to perform scientific investigations based on this data, and to publish the research findings in the international scientific literature. The ability to perform this final process generally requires a PhD/MSc level education, which can only be provided by supervisors who are experts in the space sciences at the university level.

4. Space weather work is roughly divided into two spheres:

(1) Operational activities, and

(2) Research and educational activities.

Operational work can be handled by already existing national space related institutions.

Research and education is the domain of advanced research institutions and universities. The Centre, recommended in this "Abuja ISWI Resolution" must be part of such an advanced research institution or university. Moreover, a proven record of capacity building is an essential prerequisite for this Centre.

5. The Centre must be an institution with a proven record in organizing international activities. These activities include space weather schools, space weather workshops, observation

campaigns, installation of instruments in different regions of the world, training of instrument host staff and students, and international outreach programmes. The Centre must possess experience in promoting and supporting international programmes such as ISWI.

6. The Centre would cooperate with the UN-affiliated Regional Centres for Space Science and Technology Education, located in India, Mexico/Brazil, Morocco, and Nigeria (http://www.unoosa.org/oosa/en/SAP/centres/index.html), and other centres of excellence in space science and technology education.

7. The Centre for Basic Space Science at the University of Nigeria (http://www.cbssonline.com/), Nsukka, Nigeria, offered to act as a Regional Centre for Space Weather Science and Education.