

Unanimously approved by the participants of **UN/Nigeria Workshop on ISWI** (17-21 October, 2011, Abuja, Nigeria) :

## **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>) in Japan offered to host this Center.

2. This Centre should grow into a network of national and regional centers, focusing on space weather, around the world – all dedicated to the 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* (<http://www.cbssonline.com/>) at the University of Nigeria, Nsukka, Nigeria, offered to act as a Regional Centre for Space Weather Science and Education.

End of Resolution.