

## Space weather expert group in the Committee on the Peaceful Uses of Outer Space of the United Nation (UNCOPUOS)

Takahiro Obara<sup>1\*</sup>

<sup>1</sup>PPARC, Tohoku University

The expert group for space weather was made under the Working Group on the Long-Term Sustainability of Outer Space Activities in the Committee on the Peaceful Uses of Outer Space of the United Nation in 2010 and T.Obara was assigned a chair of the expert group. The objective of the expert group is to gather existing information on space weather and its impacts on space activities, and also on the current practices, operating procedures and technical standards for mitigating the effects of space weather phenomena on operational space systems.

The expert group will provide this information to the Working Group for inclusion in its report and propose voluntary guidelines to enhance the safety of space activities and to reduce the risks from space weather phenomena to the long-term sustainability of space activities. The expert group intends to carry out its work and finish them by the end of 2013.

The expert group has considered the topics and methods of work regarding the following scope, and has agreed to elaborate the consideration of these topics along the lines of what is indicated below:

(a) Collection, sharing and dissemination of data, model and forecasts;

The expert group will collect information on the current practices of States and organizations in terms of space weather observation and the various models and tools being used for space weather forecasts. The expert group has noted that this is the first attempt to collect and consolidate information of this nature from around the world. Thus the information collected will be useful information for all organizations related to space weather.

(b) Capabilities to provide a comprehensive and sustainable network of sources of key data in order to observe and measure phenomena related to space weather in real or near-real time;

It is important to form a network that continuously provides key data related to space weather in real time or near-real time. Further discussion is necessary to identify which are the key data to provide. Collecting information on data provision and the available networks will be the first step.

(c) Open sharing of established practices and guidelines to mitigate the impact of space weather phenomena on operational space systems;

Established practices to mitigate the impact of space weather phenomena on space systems vary from State to State, and even basic standards for the designing of satellites are different. The expert group has noted that as the situation concerning the sharing of knowledge and practices differs in each State, it may be difficult to compile information from all States. This expert group will work toward improving standards by eventually expanding the sharing of related information.

(d) Coordination among States on ground-based and space-based space weather observations in order to safeguard space activities;

The expert group recognizes the importance of coordination among States in space weather observations. The expert group will consider the possible modalities of sharing data. The expert group will also consider the risks arising from space weather, with a view to proposing which types of key data ought to be shared in order to safeguard space activities from detrimental effects of space weather.

Keywords: Space Weather, United Nation, Committee on the Peaceful Uses of Outer Space