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Asia-Oceania Space Weather Alliance

Ken T. Murata^{1*}, Shinichi Watari¹, Tsutomu Nagatsuma¹

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It is often said that, for human being, the 21st century is a century of space. Our daily lives will be more dependent on space and the practical use of the space is getting more important: satellite communication systems, satellite broadcasting systems, satellite navigation systems, international space station and so on. Space vehicles, such as spacecraft and space station, are always in severe environment with energetic particles and strong electromagnetic fields. For safety operations of these vehicles in the space, predictions of the severe conditions, e.g., when it comes, how large it is and how much the estimated damage is, are indispensable. These predictions are often called Space Weather information, which is named after general weather forecasting.

In these days, a lot of countries and organizations have been promoting researches and also practical space weather services, aiming at providing information of space environment. In order to provide more accurate and valuable space weather information, data exchange between countries and organizations are important. We should note that a launch of spacecraft costs at least \$1 million. Every country cannot afford to launch such expensive vehicle to the space.

With the backgrounds mentioned above, the United States and Europe countries have had annual meetings for space weather operations and researches: the Space Weather Workshop in the US and the Space Weather Week in EU. These regional meetings have helped their collaboration, information exchange, and operation of space weather activities in both regions. Through these face-to-face meetings, space weather forecast activities have been still in progress.

We need to point out that we have no such regional cooperative relationship among Asia and Oceania countries. However, the cooperation of each country is also indispensable to offer information that supports Space Activity of the 21st century in these countries. Here we propose our international space weather alliance: the Asia-Oceania Space Weather Alliance (AOSWA). The AOSWA is a regional forum for the development of collaboration and promotion of the space weather activities in the Asia and Oceania region. The major objectives of the AOSWA are (i) regional exchanges of both real-time and archived data between Asia and Oceania countries, including sun and solar, geomagnetic and ionospheric observation and computer simulation data, (ii) research collaborations between Asia Oceania countries on space weather, and (iii) communication and information exchange for space weather operation, research and education (outreach).

We had two kick-off meetings of the AOSWA at Indonesia and Thailand. More than 10 countries were involved in the discussion and most of the attendees gave their approbation. In the present talk, we introduce the concept of the AOSWA and discuss our future plan to progress our space weather operations and researches in the Asia and Oceania regions.



Keywords: Asia, Oceania, Space Weather, Alliance, Observation, Simulation