Global Streams of Space Weather Research and Operation and the Role of Asia

Now the needs of space weather information in human activities are increasing in the world. Space weather impact on social activity occurs rarely, but once it happens, the damage will be global and severe. One of the insurance companies estimated that if the most significant space weather event in human history, Carrington event on September 1859, occurs now, the economic loss will be equivalent to the 2011 Tohoku earthquake in each of north America and Europe.

US government takes this fact important and assigns space weather as one of the threats in "US strategic National Risk Assessment". Some other entities, e.g., UK, South Korea and Lloyds insurance company has prepared their own report of social impact of space weather.

Some international organizations also interested in space weather impact. ICAO has been discussing to use space weather information in civil aviation operation. Now three entities have been assigned as ICAO space weather centers and the information providing services will start on Nov. 2019.

In these situations, what should Asian people do as a part of the world? South-east Asia has an advantage to set ground based observatories comparing with other equatorial regions. The low latitude region is relatively safer than the high latitude region with severe impact of solar activities, e.g., PCA and GIC, but there are some specific phenomena like EPB. We, Asian countries can provide such precious observational data to improve global empirical/numerical models which contribute to precise space weather forecast.

I would like to discuss this topic in detail in my presentation.