

**Statement by Thailand on
Agenda item 9. Space Weather
The 61st Session of Scientific and Technical Subcommittee of COPUOS
29 January – 9 February 2024**

Chair, Distinguished delegates,

As Thailand is accelerating technological advancement, the inherent vulnerabilities on our space objects and ground infrastructure caused by effects space weather are one of major concerns.

Over the past 30 years, Thailand has been actively involved in monitoring and researching space weather to comprehend its phenomena and develop models. In response to this global challenge, we are poised to take a significant step forward. In March 2024, Thailand is initiating the implementation of space weather forecast services. These services will have the capacity to provide timely forecasts and warning messages, delivering essential space weather information and local data in the country. This will encompass the utilization of resources such as Continuously Operating Reference Stations (CORS), magnetometers, and more, all made accessible through our websites. We also would like thanks National Institute of Information and Communications Technology or NICT of Japan for their continuing support.

Cooperation is the key for implementing space weather activities. Thailand has established partnerships with international space agencies, research institutions, and organizations dedicated to advancing our understanding of space weather phenomena. Our recent work in collaboration with worldwide networks of ground-based detectors has clarified how solar storms, and in particular interplanetary coronal mass ejections and their shocks, affect the ever-present distribution of Galactic cosmic rays. Some such effects can potentially provide advance warning, by several hours of the arrival of an interplanetary shock at the Earth.

Additionally, Mahidol university and Chiang Mai university have conducted research pertaining to space weather for over 30 years. The universities maintain ground-based detectors of neutron monitors, known as neutron monitors, at the summit of Doi Inthanon, Thailand's highest mountain and at Mawson Station, Antarctica. In particular, the data from a polar station such as Mawson can be used to detect relativistic solar particles in so-called Ground Level Enhancement (GLE) events, which have the most intense and severe radiation effects among space weather events, and are the only events of concern for radiation dosage of airline crew and passengers. Moreover, the information from Mawson Neutron Monitor contribute to multiple space weather alert systems, and indeed polar neutron monitors provide the first indication of an ongoing solar radiation storm. For scientific analysis, the data also contribute to mapping out the directional distribution of relativistic solar particles for characterization and understanding of the radiation patterns in various events.

With the purpose to gain deep understanding, Thailand is also developing a cosmic ray particle detector as a space weather monitor for the Thai Space Consortium, to be deployed on Thailand's research satellite TSC-1.

These activities demonstrate the progress of Thailand in implementation of the Guidelines for the Long-term Sustainability of Outer Space Activities, specifically Guidelines B.6 and B.7.

Chair and Distinguished delegates,

In conclusion, Thailand has committed to put our priority on the space weather issue. We are working closely with the international community to strengthen our collective response to space weather challenges and Thailand are welcome to participate as a member of international agency or consortium to research and share space weather data to deliver effective space weather services.

Thank you
