Committee on the Peaceful Uses of Outer Space
Scientific and Technical Subcommittee 60th Session
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Japan Item 10– "Space Weather"

Mr. Chair, Distinguished Delegates,

On behalf of the Japanese delegation, I am pleased to present Japan's recent activities regarding space weather.

Considering the increasing number of space operations, it is important to monitor solar activities and the space environment as a whole for the safety and sustainability of our outer space activities.

The National Institute of Information and Communications Technology (NICT) of Japan has a long history of measuring solar radio waves since 1952. NICT currently conducts solar observations with its own solar radio telescope, and provides a ground station for receiving data on solar winds and images from United States satellites. Additionally, NICT has established a ground-based observation network of the ionospheric and the geomagnetic field to monitor and forecast ionospheric disturbances. These instruments provide useful data for space weather monitoring, forecasting and research.

Since the identification of large solar flares in 2017, NICT has strengthened its ability to observe space weather with a dual observation system, and has set up a second NICT branch in Kobe, Japan, acting as a secondary space weather information center. In addition, NICT began 24/7 space weather forecast operations on December 1, 2019.

Mr. Chair,

NICT has made several contributions to the formulation of the space weather international framework. For example, NICT contributed to the publication of the "Draft final report of the Expert Group on Space Weather: towards improved international coordination for space weather services" (A/AC.105C. 1/L.401) from UNCOPUOS in 2022. The first recommendation in this document shows that the three organizations related to space weather, COSPAR, ISES and WMO lead efforts to improve the global coordination of space weather activities. To begin, the three organizations discussed and prepared the "Coimbra Declaration" in

September 2022. NICT contributed to this effort, as a representative of ISES and the only participant from the Asia-Oceania region.

NICT also contributes to the activities of the International Civil Aviation Organization (ICAO), the World Meteorological Organization (WMO), the International Telecommunication Union (ITU) and International Space Environment Services (ISES). NICT was designated as one of the ICAO Space Weather Global centers in collaboration with Australia, Canada and France, and began operations on November 7, 2019. NICT also serves as the secretary of the Asia-Oceania Space Weather Alliance (AOSWA) collaborating on space weather operations and research in the Asia-Oceania region since 2011.

In addition, NICT has started developing space weather monitoring sensors on geostationary orbit satellites in cooperation with the Ministry of Internal Affairs and Communications (MIC) and Japan Meteorological Agency (JMA), since 2021. These instruments are expected to be installed in the next generation meteorological satellite, "HIMAWARI", to be launched in 2028. Observations using these instruments are important not only to monitor regional space weather, but also to help establish a global infrastructure to support the safety and security of ICT society.

Mr. Chair,

MIC hosted a committee to discuss improvements in space weather forecasting, publishing a report on it in June 2022. The committee was a follow-up to the nation-wide collaborative research initiative called "Project for Solar-Terrestrial Environment Prediction" (PSTEP) from 2015 to 2019.

The report highlights two main points of our discussion. The first is a worst-case scenario in severe space weather events with a recurrence interval of 100 years or more. In the second, we defined anew space weather scale based not only on natural phenomena but also on the social impacts it may have for the reader's understanding.

Thank you for your attention.