Committee on the Peaceful Uses of Outer Space Scientific and Technical Subcommittee 57th Session February 3-14, 2020



Agenda Item 11- "Space Weather"

On behalf of the Japanese delegation, I am pleased to present Japan's recent activities regarding this agenda item.

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

In Japan, the National Institute of Information and Communications Technology (NICT) has a long history of measuring solar radio waves since 1952. Currently, NICT conducts solar observations with its own solar radio telescope, and provides ground stations that receive data on solar winds and images from satellites of the United States. Additionally, NICT has constructed a ground-based observation network of the ionosphere and the geomagnetic field for the purpose of monitoring and forecasting equatorial ionospheric disturbances. These instruments provide useful data for space weather monitoring, forecast and research.

Thanks to these efforts, NICT was able to identify big solar flares in 2017. Luckily, the solar flares did not have a severe impact to Japan but the exercise emphasized the importance of being prepared for severe space weather disasters. NICT strengthened its ability to observe space weather with a dual observation system, and set up the second branch of NICT in Kobe, Japan, acting as a secondary space weather information centre. Additionally, NICT began 24/7 space weather forecast operations on December 1, 2019.

We have made several contributions to constructing the space weather international framework, which was one of the thematic priorities of UNISPACE+50. NICT 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 assigned as one of the ICAO Space Weather Global centres in collaboration with Australia, Canada and France, and began operations on November 7, 2019. NICT also acts as the secretary of the Asia-Oceania Space Weather Alliance (AOSWA) collaborating on operations and research of space weather in the Asia-Oceania region since 2011. At present, twenty-nine institutes in fourteen countries are members of the alliance. The 6<sup>th</sup> AOSWA Workshop will be held in Malaysia in August 2020 and will be hosted by Universiti Kebangsaan Malaysia (UKM).

Starting in 2015, Japan launched a nation-wide collaborative research initiative called "Project for Solar-Terrestrial Environment Prediction" (PSTEP) with the support of Grants-in-Aid for Scientific Research on innovative Areas, provided by Japan's Ministry of Education, Culture, Sports, Science and Technology. More than 100 researchers in Japan and around the world have been involved in this project. PSTEP aims to develop a synergistic interaction between predictive and scientific studies of the solar-terrestrial environment and to establish the basis for the next-generation space weather forecasting using state-of-the-art observation systems and advanced physics-based models. Under this wide range of domestic and international cooperation, we hope to significantly contribute to both science and society by exploring the future of the solar-terrestrial environment.

I will end my statement by reiterating that Japan will continue to work on space weather issues through various initiatives.

Thank you for your attention.