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Committee on the Peaceful Uses of Outer Space
Scientific and Technical Subcommittee
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Draft report

VIII. Space weather

1. In accordance with General Assembly resolution 75/92, the Scientific and Technical Subcommittee considered agenda item 10, entitled “Space weather”.

2. The representatives of Austria, Brazil, China, India, Indonesia, Iran (Islamic Republic of), Israel, Italy, Japan, Kenya, Mexico, Peru, the Russian Federation and the United States made statements under agenda item 10. A statement was also made by the Rapporteur of the Expert Group on Space Weather. During the general exchange of views, statements relating to the item were made by representatives of other member States.

3. The Subcommittee had before it a conference room paper containing a draft report of the Expert Group on Space Weather on the topic “Survey of the state of member State preparedness, and current and future activities and needs for space weather impact mitigation”, submitted by the Rapporteur of the Expert Group on Space Weather as a working paper (A/AC.105/C.1/2021/CRP.14).

4. The Subcommittee heard the following scientific and technical presentations:

(a) “China Meteorological Administration space weather activities”, by the representative of China;

(b) “Space weather activities in Austria”, by the representative of Austria;

(c) “Current status of the Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) PRESTO programme for predictability of the variable solar-terrestrial coupling”, by the observer for SCOSTEP.

5. The Subcommittee noted that space weather, caused by solar variability, was an international concern, owing to its potential threat to space systems, human space flight and the ground- and space-based infrastructure upon which society increasingly relied. As such, it needed to be addressed in a global manner, through international cooperation and coordination, so that potentially severe space weather events could be predicted and their impact could be mitigated to guarantee the long-term safety, security and sustainability of outer space activities.

6. The Subcommittee noted a number of national and international activities undertaken in space weather research, training and education to improve the scientific and technical understanding of adverse space weather effects and provide early warning of imminent space weather events, with the aim of strengthening space weather resilience.

7. The Subcommittee noted the importance of long-term and effective collaboration, and the continuing need for coordination and collaboration among national and international space weather actors to address the threats arising from the adverse impacts of space weather, which served to enhance the understanding of both the drivers and the impacts of space weather and thus improve global capacity in monitoring, forecasting and mitigating severe space weather events.

8. The Subcommittee also noted the importance of the work of the World Meteorological Organization, including the development of its technical and regulatory framework for space weather and the opportunities offered by its Integrated Global Observing System and related systems, as well as the importance of Member States' engagement with COSPAR in developing international space weather action teams for scientific research in support of transitional efforts related to research for operations, and in the space weather-related work of ITU and the International Space Environment Service (ISES).

9. The view was expressed that it was necessary for countries with developed space weather capacity to cooperate with emerging spacefaring nations by sharing lessons learned on national space weather plans and research, and by sharing data, so that all countries could progress in the development of technical capacities and technology and increase knowledge and research activities, with a view to mitigating the adverse effects of space weather.

10. The view was expressed that a repository of open data on space weather obtained from ground- and space-based infrastructure, provided by multiple entities of Member States, could be established through the Committee on the Peaceful Uses of Outer Space to further enable research, the sharing of data and cooperation at the international level on that matter of global concern, and thus improve the prediction of potentially severe space weather events and the mitigation of their impacts.

11. The view was expressed that certain regions were exposed to more pronounced effects of space weather as a result of certain phenomena, such as the South Atlantic Magnetic Anomaly, which caused an increased flux of energetic particles over an area of South America. In that context, the International Meridian Circle Programme of China, aimed at studying geomagnetic anomalies, was also noted.

12. Some delegations expressed the view that activities related to space weather could have an impact on aviation and, in particular, could potentially interrupt high-frequency communications and satellite navigation. In that regard, the Subcommittee noted the establishment of the fourth International Civil Aviation Organization (ICAO) global space weather information centre, tasked with providing to the civil aviation sector information about space weather that could potentially affect communications, navigation and the health of passengers and crew.

13. The Subcommittee noted that a virtual workshop on the International Space Weather Initiative was to be organized in 2021 by India, in cooperation with the Office for Outer Space Affairs, in an effort to build synergies and maximize potential outcomes of various endeavours around the world aimed at studying space weather.

[*The report of the Expert Group is contained in document A/AC.105/C.1/L.386/Add.6.*]

14. At the […] meeting of the Subcommittee, on [...] April, the Rapporteur of the Expert Group on Space Weather presented a report on the progress made by the Expert Group during its meetings held on the margins of the fifty-eighth session of the Subcommittee.