

## Brazil – item 15

Madam Chair,

Distinguished Delegates,

Brazil reaffirms its commitment to the preservation of Dark and Quiet Skies, which are essential for the continuity of vital scientific services, such as radio astronomy and Earth Exploration by Satellite Services (EESS). It is with great honor that we announce our decision to join the Group of Friends for Dark and Quiet Skies, reflecting Brazil's strong interest in actively contributing to the mitigation of satellite constellation impacts and ensuring the protection of the scientific environment.

We also commend the decision to include the agenda item titled "Dark and quiet skies, astronomy and large constellations" on STSC's provisional agenda for the next five years. This decision represents a significant step towards addressing the cumulative impacts of satellite constellations while balancing technological development and space sustainability.

Brazil has an active astronomical community with access to important national and international astronomical facilities (negatively) affected by light and electromagnetic pollution and interference from satellite constellations.

Preserving dark and quiet skies aligns directly with the Long-term Sustainability of Outer Space Activities. Mitigating optical and radio frequency interferences is essential to safeguard ongoing scientific observations and protect critical services that benefit all humankind. We also highlight the critical relationship between radio astronomy and space weather. Events such as the 1989 geomagnetic storm illustrate the tangible risks of solar emissions. Such phenomena can significantly disrupt aeronautical communications, air traffic control, satellite

navigation (GNSS), electrical power grids, climate monitoring, and jeopardize disaster prevention. Protecting the radio frequency bands used for these services is indispensable for ensuring global technological resilience and public safety.

Madam Chair,

Brazil, through its state institutions, such as the National Telecommunications Agency (Anatel), actively protects radio frequency bands used by radio astronomy, in line with ITU-R Recommendations, including RA.769, which establishes criteria to protect scientific observations from harmful interference, and RA.1513, which addresses the mitigation of out-of-band emissions in passive services. We emphasize the importance of strengthening coordination between COPUOS and ITU-R while fully respecting their respective mandates and competencies, ensuring the implementation of harmonized and effective solutions.

Projects such as the SKAO, ALMA, CTAO, SOAR, GEMINI and the next generation of extremely large telescopes, namely GMT, TMT and ELT, which represent large-scale international collaborations, exemplify the vital role of radio and optical astronomy in advancing fundamental scientific discoveries about the universe's nature. Moreover, these projects drive technological innovation with direct applications in telecommunications, climate monitoring, data processing and medicine, delivering tangible benefits to global socioeconomic development.

In this regard, Brazil believes that future revisions of the COPUOS Guidelines for the Long-term Sustainability of Outer Space Activities should incorporate preserving Dark and Quiet Skies into its umbrella. The ongoing discussions within the Working Group on Long-term Sustainability (LTS) provide a concrete opportunity to advance this issue and consolidate practices that ensure a balance between technological innovation and the protection of scientific services.

Brazil reaffirms its commitment to achieving a balance between technological development and the preservation of the environment necessary for scientific progress and the long-term sustainability of outer space activities. International cooperation remains fundamental to addressing emerging challenges and ensuring that space remains a safe, accessible, and sustainable environment for all.