



STATEMENT BY THE SQUARE KILOMETRE ARRAY OBSERVATORY

The 60th session of the Scientific and Technical Subcommittee of the United Nations
Committee on the Peaceful Uses of Outer Space

AGENDA ITEM 17: General Exchange of Views on Dark and Quiet Skies for Science
and Society

Read by: Federico Di Vruno (SKAO Spectrum Manager)

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Chair,

On behalf of the Square Kilometre Array Observatory (the SKAO), I am pleased to address the 60th Session of the STSC on this increasingly important topic for UN COPUOS.

Chair,

As an International Intergovernmental Organisation tasked with constructing and operating two of the most powerful radio telescopes in the world, the SKAO has been actively involved in the actions to protect Dark and Quiet Skies since 2019. Radio astronomy instruments are extremely sensitive to radio signals from terrestrial, aerial or space born emitters. These signals can be billions of times stronger than the strongest radio astronomical sources and can affect radio telescopes from hundreds of kilometres away. To avoid interference, radio astronomy relies on narrow spectrum bands protected by the Radiocommunication Sector of the ITU (ITU-R) which are of utmost importance for specific observations and calibration purposes. In addition to these allocated radio astronomy bands, some radio observatories are located in areas, as remote as possible, and protected by national legislation as “radio quiet zones” (or RQZs) in the search for a pristine radio spectrum. Such RQZs enable wider frequency observations, increasing sensitivity and opening the possibility to new studies to advance our knowledge of the Universe.

Chair,

We live in a golden age of space research in which observatories and telescopes in operation, or in construction, will be able to probe the whole electromagnetic spectrum (from radio to daylight). As one of the co-signatories of the *Conference Room Paper on the Protection of Dark and Quiet Skies for science and society*, (CRP 18), we believe that an Expert Group will further advance the Committee’s understanding of the situation and will assist in proposing feasible technical recommendations to mitigate the effect of satellite constellations on the Dark and Quiet Skies.

Chair,

We are aware of the concerns of potential duplication of work and overlapping jurisdictions regarding UN COPUOS and the International Telecommunication Union (ITU). We understand that the ITU is the UN Agency tasked with the international regulation of the radio spectrum, on the surface of the Earth as well as in Space, and UN COPUOS is the committee for the peaceful uses of outer space. As optical reflectivity and radio emissions are two effects originating from the same sources in great numbers, i.e. satellites in Low Earth Orbit, it is our view that a mechanism should be established to allow information flow between these two agencies. With these considerations, we see the proposed Expert Group as an ideal candidate for this information exchange to happen at the technical level, and venture in the suggestion that if such Expert Group is established, its membership could consider a bidirectional liaison between the relevant ITU groups and the Expert Group. Furthermore, the SKAO, as hosting organisation of the IAU CPS, stands ready to support this Expert Group should it be created.

Chair,

The issues described, and elaborated on by other delegations at this meeting, highlight the need for coordinated dialogue between COPUOS Member States and relevant actors within their domains. Multilateral progress requires dialogue and consensus, and we believe that maintaining this Item on the STSC agenda and creating an Expert Group on Dark and Quiet Skies, will prepare the groundwork towards a set of recommendations or guidelines to allow science and industry to sustainably coexist in the exploration of outer space.

Chair, distinguished delegates, thank you for your kind attention.