



**STATEMENT BY THE SQUARE KILOMETRE ARRAY OBSERVATORY**

The 61<sup>st</sup> session of the Legal Subcommittee of the United Nations Committee on the  
Peaceful Uses of Outer Space

**AGENDA ITEM 13: General exchange of views on the legal aspects of space  
traffic management**

**Read by:** Theunis Kotze (SKAO Head of Legal)

**Date:** 30 March 2022

Check against delivery.

Chair,

Thank you for allowing me the floor.

On behalf of the Square Kilometre Array Observatory (the SKAO), I am pleased to address the 61<sup>st</sup> Session of the Legal Subcommittee of COPUOS and for the first time as a Permanent Observer to the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS). I wish to assure you of the SKAO's cooperation during this session.

Chair,

Space research from ground-based observatories is very relevant to society. Not just for fundamental research, but also the range of applied impacts, whether in space weather, space situational awareness and monitoring, or in scanning the sky for potentially dangerous Near Earth Objects. All rely on continued and unrestricted access to the Dark and Quiet sky:

- The Dark Sky, where people and optical instruments, professional and amateur alike, can view the stars without interference from artificial light or the reflected light trails from artificial orbiting objects;
- The Quiet Sky, where day or night, radio observatories probe the invisible Universe using the most sensitive instruments ever conceived, free from artificial interference from the ground, or increasingly a threat, from the emissions, intended and unintended, from Earth orbiting satellites.

Chair,

Radio astronomy instruments are very sensitive to artificial radio signals from terrestrial, aerial or space born transmitters. These signals can be billions, trillions or more times more powerful than the strongest radio astronomical source and can affect radio telescopes hundreds of kilometres away. To avoid interference in certain valuable regions of the spectrum, radio astronomy relies on protection allocated by the Radiocommunication Sector of the ITU (ITU-R). These small regions are of the utmost importance for specific observations and calibration purposes. Radio observatories also locate their instruments in

areas as remote as possible (ideally protected by national legislation as “radio quiet zones”) in the search for pristine radio spectrum – this allows wider frequency observations, as is required by modern radio astronomy. And most significantly, radio astronomy continuously advances radio receiver technology, increasing in resilience and flexibility, and software techniques to mitigate the effects of interference.

Chair,

We are witnessing a revolution in the peaceful uses of outer space, and new Low Earth Orbit (LEO) constellations, currently deploying thousands of spacecraft and planning to have much larger numbers, are already modifying our view of the radio sky as seen from the ground. We are currently moving from a situation with low numbers of spacecraft which appear mostly stationary in the local sky to now hundreds, or even thousands, of fast-moving LEO spacecraft above the horizon at any moment in time. Radio telescopes will receive strong signals from all visible spacecraft with radio frequency payloads and will struggle to avoid pointing directly at them. Furthermore, this revolution has also enabled the proliferation of high-power radars in low Earth orbits which are capable of destroying a radio telescope’s receiver if direct illumination occurs.

Chair,

The SKAO wishes to endorse the view expressed at LSC 60 (A/AC.105/1243 paragraph 196) that “space traffic management, which entail(ed)s developing and implementing a set of technical and regulatory provisions to promote safe access to outer space, the safety of operations in outer space and the safe return from outer space, free from physical or radio frequency interference, was of the utmost importance for maintaining outer space as a safe, stable and sustainable environment”.

Chair,

Multilateral progress requires dialogue and consensus. As we look to the ways in which humankind can protect the beauty and scientific importance of the Dark and Quiet Sky, COPUOS and its LSC, with its rich history in facilitating international dialogue on matters of importance to space, have a critical role to play lead the way in providing solutions to space traffic management that will benefit all outer space activities stakeholders. The SKAO stands ready to assist in any capacity, including assisting the secretariat with arranging meetings and the provision of intersessional meeting facilities at our Headquarters in the United Kingdom.

Chair, I thank you.