STATEMENT BY THE SQUARE KILOMETRE ARRAY OBSERVATORY

The 67th session of the United Nations Committee on the Peaceful Uses of Outer Space

AGENDA ITEM 5: General Exchange of Views

Read by: Mr Federico Di Vruno (SKAO Spectrum Manager)

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Chair and distinguished delegates,

On behalf of the Square Kilometre Array Observatory (SKAO), I am pleased to address the 67th Session of UNCOPUOS. The SKAO congratulates you Chair, and your vice-chairs, for your appointment. We stand ready to offer our full cooperation and support in advancing the peaceful exploration and utilization of outer space. The SKAO also commits its full support to Ms. Aarti Holla-Maini and her team at UNOOSA.

The SKAO is an international organisation dedicated to advancing the field of radio astronomy. Among our members we have Australia, Canada, China, Italy, the Netherlands, Portugal, South Africa, Spain, Switzerland and the United Kingdom. India will join as a member in early July, and we expect that France, Germany and Sweden will complete their accession to the Observatory in the coming months.

Together, we are constructing, and at the end of the decade will operate for the next fifty years or so, two of the most powerful radio telescopes in the world, located in Australia and South Africa, which will push the frontiers of our understanding of the Universe.

We are pleased to report significant progress in the construction of both telescopes, with construction valued at 1.3 billion Euros. SKA-Mid in South Africa is seeing the first 15-m dishes being erected, and SKA-Low in Australia has already deployed two 256-antenna stations, demonstrating that the SKA Observatory is becoming a reality. Our prototypes have already begun producing on-sky test and commissioning data, marking a pivotal step forward in our mission. These advancements are only possible through the extensive international collaboration which the SKAO represents.

Astronomy, as the oldest form of space exploration, has been instrumental in expanding humanity's understanding of the cosmos. It serves as a bridge between our past and our future, fostering a sense of wonder and curiosity that transcends borders and generations. Astronomy inspires younger generations to wonder about space, allows exploration of our solar system from Earth, enables scientific research which can only be conducted within the extreme physics laboratory that is our universe, can provide vital early warnings for

asteroids with collision course to Earth and is used to refine global navigation satellite systems, among many other applications.

However, we are increasingly concerned about the rapid deployment of large numbers of satellites in space. This surge threatens the dark and quiet skies that are essential for astronomical observations, potentially hampering the very foundation of space science.

The astronomical community, together with key players from the space industry, delegates in COPUOS and ITU and national regulators have been positively engaging to discuss this pressing issue from the technical and regulatory perspectives since 2019. On the radio astronomy side of Dark and Quiet Skies, the SKAO has been developing simulation software to assess the effects of emissions from satellites, and working on mitigation mechanisms that can be implemented on the telescope data pipelines and control systems. On their side, satellite operators are in discussions with radio astronomy observatories and spectrum management groups for radio astronomy to conduct coordinated tests that explore technical mitigation measures.

As announced by the Director of UNOOSA at the side event ‘Preserving Dark and Quiet Skies - Responsible Behaviour for Science and Development" co-organized by Chile and Spain, the SKAO is co-hosting a Conference on Dark and Quiet Skies for Science and Society together with UNOOSA, in late 2025 at Jodrell Bank, United Kingdom - a significant location in space history and a UNESCO World Heritage Site. This conference is intended to provide a major platform for industry to showcase solutions and for capacity building.

The SKAO is a co-founder of the International Astronomical Unions’ Centre for the Protection of the Dark and Quiet Skies (CPS), and this has shown to be an example of collaboration between industry and academia. The CPS is actively searching for funding opportunities to implement its ambitious research program, a vital activity that will investigate and hopefully implement feasible mitigation measures for both satellite constellations and telescopes.

We commend the diligent efforts of UN COPUOS delegations at the Scientific and Technical Subcommittee for their ongoing discussions, and for the adoption of a single agenda item on the issue of Dark and Quiet Skies, as well as the ongoing work in the Group of Friends for Dark and Quiet Skies.

Your commitment to addressing this critical challenge is vital to ensuring that the legacy of space exploration remains untarnished for future generations. The SKAO is ready to match your efforts to continue working with industry and the IAU CPS to find the best and most balanced mitigation measures.

In closing, the SKAO reaffirms its dedication to the principles of peaceful space exploration and the preservation of the celestial environment. We look forward to continued collaboration with COPUOS and its member states in safeguarding the Dark and Quiet Skies, which have inspired humanity for millennia.

I thank you Chair.