



**STATEMENT BY THE REPUBLIC OF SOUTH AFRICA**

**SCIENTIFIC AND TECHNICAL SUBCOMMITTEE  
SIXTY-SECOND SESSION**

**03-14 February 2025**

**Agenda Item No 15:DARK AND QUIET SKIES**

**DELIVERED BY MR ITUMELENG MAKOLOI**

**Chairperson,**

South Africa has a vibrant scientific community working on both radio and optical astronomy. It is home to the Southern African Large Telescope, the largest single optical telescope in the southern hemisphere. It is also home to the MeerKAT radio telescope which is the most sensitive telescope of its kind in the world and a precursor to the Square Kilometre Array radio telescope, to be built in South Africa and Australia.

**Chairperson,**

The rapid growth of large satellite constellations poses challenges for astronomical research from streaks of reflected sunlight for optical telescopes to increased power potentially overwhelming faint astronomical signal for radio telescope. As a co-sponsor of this Conference Room Paper calling for this agenda item, South Africa is of the view that the Scientific and Technical Subcommittee is the most appropriate forum to address the challenge to optical and infrared astronomy and has the appropriate mandate, technical expertise, and processes necessary to achieve results.

**Chairperson,**

While various limits have been proposed for maximum acceptable satellite brightness, the International Astronomical Union (IAU) currently recommends each satellite to appear fainter than 7<sup>th</sup> magnitude. Constellations at lower orbit height need more satellites to provide ground coverage for the communications missions, which seems to suggest that constellations at higher orbits would require fewer satellites and therefore would have a lesser impact. Satellites at lower orbit heights also move more quickly through the focal planes of telescopes and may be more out-of-focus, resulting in a larger angular size and a lower brightness per pixel. This means that for optical astronomy, lower constellation orbital heights would be preferred.

**Chairperson,**

The distinct and complementary roles of UN COPUOS and ITU-R in protecting radio astronomy are well established. However, effectively addressing current and future challenges may require coordinated action and collaborative mitigation efforts from both organizations to ensure the preservation of astronomical research.

**Thank you Chairperson**