

United Kingdom, Item 17

UK Statement on DQS at the 60th session of the Scientific and Technical Subcommittee of COPUOS, 6th-17th February 2023

Chair, Distinguished Delegates

The United Kingdom understands and sympathises with the IAU's position regarding the impact that satellite trails in Low Earth Orbit (LEO), radio-wavelength emissions and artificial light at night (ALAN) have on their work.

We fully recognise the importance of these issues and the role those astronomical observations, from space and Earth-based installations, play in our ability to understand our Universe, enable deep space navigation and exploration, and provide early warning detection of Near-Earth Objects.

We have committed over £270 million to assist in the construction and operation of the Square Kilometre Array Observatory which is headquartered in the UK and is developing facilities in South Africa and Australia alongside supporting other facilities such as the European Southern Observatory. The UK will continue to support our astronomical community as we grow our presence, and investment, in the space sector and deliver the ambitions set out in our National Space Strategy.

However, we recognise that there will need to be trade-offs between the needs of the astronomical community and the needs of orbital operators and vice versa. The UK recognises the importance of space services and provides significant annual investment into space missions and associated technology. Strategic investments by the UK Government's into companies such as OneWeb is also in response to the socioeconomic benefit that investments satellite communications can provide with their potential to connect people worldwide.

To understand the challenges with Dark and Quiet Skies, since the 59th session, the United Kingdom has actively engaged with both orbital

operators and the astronomical community, hosting events to foster dialogue between industry, academia and policy makers. The United Kingdom is committed to working with all stakeholders to reduce and, where possible, resolve the issues identified.

At an international level, the United Kingdom is committed to working with partners to build understanding and share insights into how to tackle this issue. To this end, the United Kingdom notes and commends the Conference Room Paper produced by Chile and colleagues from the IAU and SKAO. The UK is supportive of maintaining the agenda item on Dark and Quiet Skies for future meetings of this subcommittee and the creation of a 3-year expert group.

The expert group is a critical element of furthering the work on Dark and Quiet Skies. The expert group will be an important opportunity to bring together international experts from both the satellite and astronomy community across industry, academia and government regulators. Given the body of work performed to date on the Dark and Quiet Skies topic, the UK believes it is important to keep this detailed work separate to the discussions within the Long-Term-Sustainability Working Group. This will ensure the Dark and Quiet Skies topic is given sufficient, dedicated time for discussion as part of the expert group and does not compete with the various other challenges and themes that will be revealed within the Long Term Sustainability Working Group. The Working Group on Long Term Sustainability may then wish to consider using the outcomes of the Dark and Quiet Skies to inform its study of challenges and possible new guidelines.

Though the United Kingdom is supportive of the creation of the expert group, we strongly believe that discussions surrounding radio-wavelength emissions should be referred to the International Telecommunications Union (ITU) for consideration. Therefore, special consideration should be paid to the boundaries and interfaces between the Subcommittee and the ITU. Furthermore, the expert group avoid extending its remit to cover the issues identified relating to artificial light at night , instead we believe this would be best discussed at a national level.

In short, the United Kingdom believes this is an important issue which requires focus and attention at the technical level. The needs of both the orbital operator and the astronomical community need to be understood and potential mitigations identified so that we can continue to benefit from the valuable work of astronomers across the globe.