

Satellite Constellation WG

International law and policy sub-group report

Giuliana Rotola

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WG Members

- **Giuliana Rotola (chair)** - Global Expert Group on Sustainable Lunar Activities
- **Aaron Boley** - Outer Space Institute
- **Andrew Falle** - Outer Space Institute
- **Andrew Simon-Butler** - Outer Space Institute
- **Ann-Sophie Martin** - Space Generation Advisory Council
- **Andrew Williams** - ESO
- **Charles Mudd** - Mudd Law
- **Christopher Johnson** - Secure World Foundation
- **Elena Cirkovic** - University of Helsinki
- **Federico Di Vurno** - SKAO
- **Laura Jamschon Mac Garry** - University Sapienza di Roma
- **Lauryl Hallet** - ESO
- **Miraslava Kazlouskaya** - Space Generation Advisory Council
- **Michelle Hanlon** - Center for Air and Space Law, University of Mississippi
- **Nishith Mishra** - Institute of Air and Space Law, McGill University
- **Peter Martinez** - Secure World Foundation
- **Rachel Venn** - Space Generation Advisory Council
- **Rafael Moro-Aguilar** - Florida International University
- **Ram Jakhu** - Institute of Air and Space Law, McGill University
- **Steven Freeland** - Western Sydney University
- **Tanja Masson-Zwaan** - International Institute of Air and Space Law, Leiden University
- **Timiebi Aganaba** - Arizona State University
- **Zac Wager** - Global Affairs Canada

Overview

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WG Goal

Identification of the relevant international legal framework: review the applicability of the international legal framework for the protection of dark and quiet skies and identify other international instruments that have similar objectives to those of the astronomy community, with particular regard to the impact of space activities and satellite constellations on astronomical observations.

→ D&QS 1: Recommendations Sat_Con 18 - 19.

WG Objectives

1. Collect relevant information concerning different legitimate activities in the exploration and use of outer space, including astronomy and satellite constellations;
2. Study the existing legal framework for such activities, in particular, the Outer Space Treaty, and other applicable treaties, also taking into account other relevant international instruments, as appropriate;
3. Identify areas for further work of the international community and recommend next steps, which may include the development of potential rules and/or norms.

Introduction

Preliminary considerations on astronomy as a space activity

Can astronomy be recognized as an activity that must be considered within the provisions of the Outer Space Treaty?

→ Systematic interpretation of the OST based on on 1969 Vienna Convention on the Law of Treaties (articles 31-32)

- Lack of definition of space activities in the OST
- Language (e.g., “exploration”, “use”, “scientific Investigation”) and context of OST suggests a broad interpretation that can consider astronomy as a space activity

Subsequent practice and COPUOS discussion on astronomy and/or related areas

- UNISPACE III Report, Vienna 19-30 July 1999 (A/CONF.184/6)
- Obtrusive space advertising and astronomical research: background paper by the International Astronomical Union, 2001 (A/AC.105/777)
- Establishment of the International Asteroid Warning Network (IAWN) along with the Space Mission Advisory Group (SMPAG) in 2014 (UN General Assembly resolution 68/75)
- Report on the 62nd session of COPUOS / General exchange of views on the legal aspects of space traffic management, 2019 (A/74/20)
- Consolidated draft “Space2030” agenda and implementation plan, 2021 (A/AC.105/L.321)

Systemic interpretation of international space law

→ Space law is part of the broader system of international law

→ Art. III OST:

"States Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the Moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding"

→ The report reviews and identifies principles applicable to space, in particular to activities taking place in Low Earth Orbit

International Space Law

OST Freedoms and limitations

- Astronomy & satcons constitute legitimate uses of outer space
- Freedom to access, use, explore and conduct scientific investigation in outer space (Art. I OST)
- Limit to the principle of “free access”: non-appropriation (Art. II OST)
 - Satcons could exclude from the use of same orbits
 - Lack of international coordination (“first come, first served”)
 - Long-term occupation could be considered a form of appropriation

Satellite constellations and ‘continuing supervision’

- Art. VI OST:
 - (i) State responsibility for national activities carried out by governmental agencies or by non-governmental entities
 - (ii) national activities shall require authorization and continuing supervision
- Current gap in the consideration of on-orbit operational phases of satellite constellations
- An assessment (or due diligence) regarding the environmental impact of satcons activities is needed

Due regard, harmful interference, and coordination

- Art. IX constitutes another limitation to the freedoms of Art. I
- Obligations of due regard, prevention of harmful interference, and engagement in international consultations
- Historical precedent in the West Ford Experiment

→ States parties have to pay due regard to the corresponding interests of other States that will be affected by the light and radio pollution created by satellite constellations

→ For non-governmental activities, States should adopt licensing conditions that take into account the impact of those constellations on ground-based astronomy

→ Obligation to consult with potentially affected State Parties

Astronomy and Planetary Defense

- Astronomy plays an integral role in the detection and characterization of Near-Earth Objects (NEOs)
- Planetary defense is in the interest of national and global security
- Its effectiveness may be impacted by satcons:
 - Possible delays in the identification of objects, and
 - delay an internationally coordinated response

Environmental Considerations

Applicability of Environmental Law to LEO

- *Environment* is generally understood in relation to human quality of life
- LEO is a limited natural resource, key for the quality of life for humankind
- Historically environmental focus in the formation of int'l space law
- Applicable principles of international environmental law:
 - prevention of transboundary harm
 - precautionary principle
 - “polluter pays” principle
 - principle of sustainable use

Private actors and non-governmental entities

- Private actors are not directly bound by public international law, but States have obligations in int'l law and liability for space activities and actors in outer space
- Corporate Social Responsibility approach to outer space activities is needed to identify objectives in:
 - Paying due regard for stakeholder interests
 - Including issues such as human rights and environmental pollution
 - Mitigating corporate and financial risks of current and potentially unsustainable practices
- Existing voluntary tool: Space Sustainability Rating

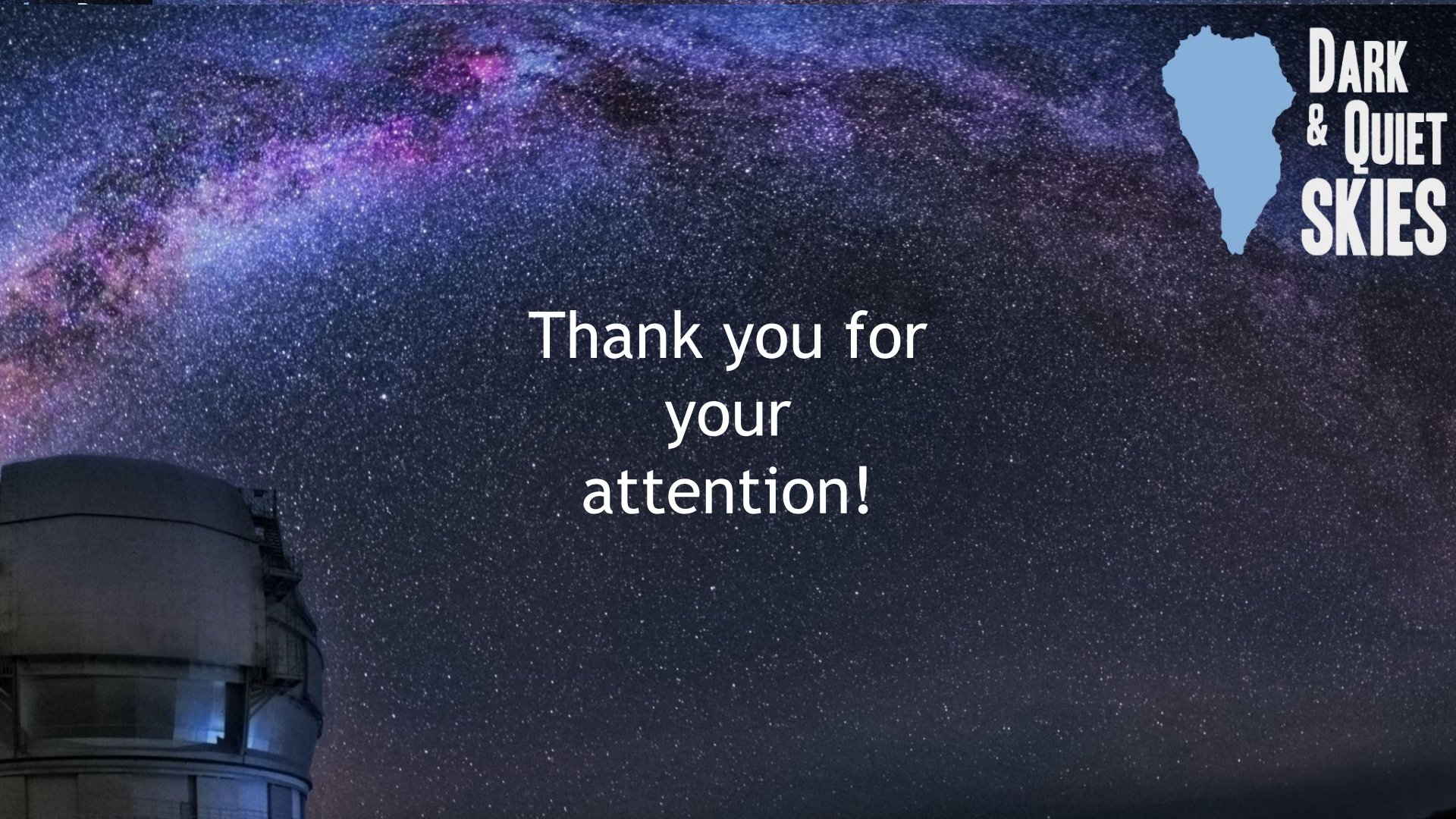
Societal Impacts of Satcons

Satellite Constellations and Dark Skies

- Heritage and Cultural Sky Traditions
 - Permanent loss of practicable scientific astronomy to global amateur and developing communities
 - Importance of art and astrophotography
- Dark Skies and Access to Science
 - Unequal and underrepresented consequences for a diverse global range of societal stakeholders

Conclusions

- Satellite constellations and astronomy are legitimate forms of accessing, exploring, and using outer space
- Balance and coordination in the exercise of these freedoms is needed
- States must assess compliance with applicable international environmental law
- Considerations on sustainability and societal impacts on present and future generations cannot be overlooked
- States are responsible for providing guidance on private actors' responsible and sustainable use of space

A night sky with the Milky Way galaxy visible, featuring a blue silhouette of the African continent in the upper right. The text 'DARK & QUIET SKIES' is written in white, bold, sans-serif font. In the center, the text 'Thank you for your attention!' is written in white, sans-serif font. In the bottom left corner, the top of a modern building with a curved roof and windows is visible.

**DARK
& QUIET
SKIES**

Thank you for
your
attention!