

## IAF SYMPOSIUM ON SPACE SECURITY (E9)

Policy, Legal, Institutional and Economic Aspects of Space Debris Detection, Mitigation and Removal  
(1-A6.8)

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COMMON BUT DIFFERENTIATED RESPONSIBILITIES FOR SPACE DEBRIS REMOVAL  
TOWARDS SUSTAINABILITY OF SPACE ACTIVITIES

**Abstract**

Expanding the concept of sustainability from Earth to outer space is a recent yet inevitable development which originates in the comprehension that the Earth's orbital space is a finite resource. The growing number of actors and operations in outer space have led to the proliferation of space debris, posing numerous risks to the long-term sustainability of space activities. Against this background, the Guidelines for the Long-term Sustainability of Outer Space Activities adopted by the Committee on the Peaceful Uses of Outer Space in 2019 call for enhanced international cooperation, effectively addressing such challenges. COPUOS Member States agreed on the fact that international cooperation is required; however, what has not been agreed upon is the nature of such cooperation. The following paper elaborates on the concept of responsibility for space debris removal, looking for analogies in climate change law, namely the principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC). Reviewing the literature on space debris regulations as well as currently developed space debris removal methods and mapping out countries' individual contribution to the growth of space debris, this paper proposes a system based on the correlation between space activities of States and the responsibility for space debris removal. Acknowledging the principles of international space law as well as Guidelines for the Long-term Sustainability of Outer Space Activities, the paper aims to identify the key obstacles regarding space debris removal – such as international responsibility and limited capabilities to identify the origin of space debris – and to provide recommendations strengthening international cooperation. The proposed space debris regulating and minimizing system – built on the principles of intragenerational equity, sustainable use, intergenerational equity, integration, and peaceful purposes – will lower the risks associated with ever-growing human space activity.