

54TH IISL COLLOQUIUM ON THE LAW OF OUTER SPACE (E7)
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INTERNATIONAL ENVIRONMENTAL LAW IMPLICATIONS FOR SPACE OPERATIONS

Abstract

International policy interests favor preventing collisions between satellites, reducing formation of space debris and other contaminants. Relative closing velocities for space objects are significant, especially in low earth orbit, so even small objects, some as small as a paint chip, can impart significant damage to objects they impact. Unfortunately, the increasing congestion of man-made space objects around our planet is raising risks of such collisions and contamination. The seemingly unrestrained growth in the amount of debris is leading to alarming safety of flight consequences for the global space community. Contaminants can affect mission sensors. Given the threat, space debris growth and contaminant management are vital concerns to those who hope to peacefully leverage the capabilities enabled by space domain.

Exercising due care is thus an important consideration when performing activities in a crowded space environment. Accordingly, this paper will examine the evolving legal aspects of international environmental law, especially as it affects: evolving obligations to minimize production of space debris; liability for collisions or threatened conjunctions; and potential lawful responses to circumstances where feckless and irresponsible states refuse to avail themselves of opportunities to reduce space debris dangers to other space systems.

The United Nations-sponsored Inter-Agency Space Debris Coordination Committee (IADC) has proffered space debris mitigation guidelines, but they are non-binding. The Liability Convention provides an imperfect means to establish liability and damages for on-orbit collision incidents, but there are presently no internationally established space traffic rules. The paper will discuss the elements of awareness and reasonable action required for today's congested orbits and for the future, and how standards to protect the space environment could be established with binding force through treaty, customary international, or municipal law. Other treaties can affect how space activities should be conducted to minimize environmental damage and reduce threats to other space systems. Legal standards of care may be established by practice among members of a community that exercise a similar activity. The degree of care required of space operators should involve a spectrum of possible steps: to be informed or obtaining space situational awareness; to consider available resources and the efficacy of a responsive actions; exercising timely decision in taking an action; and acting in a skilful way. This paper will propose a standard or level of care required to resolve growing space environmental problems, whether operating a satellite in congested low Earth orbits or in the geosynchronous belt.