

Space Debris Remediation

Some Aspects of International Law Relating to the Removal of Space Junk from Earth Orbit

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Abstract: The paper is based upon the premise that space debris, defined as “all man-made objects, including fragments and elements thereof, in Earth orbit or re-entering the atmosphere, that are non-functional”, is a major impediment to the sustainable use of outer space. Mitigation measures intend to curb the proliferation with new space debris and are only concerned with a growth reduction of the space debris population by changing patterns of on-going and future space activities. Mitigation measures by themselves are insufficient to stabilize or even reduce the space debris population. In light of the growing consensus that it is necessary to retrieve mass from Earth orbit, in particular from orbital zones with critical mass concentrations and collision probability, the paper revisits two legal questions:

Are States under an international obligation to actively remove space debris from Earth orbit caused by their national space activities?

Do States have the right under international law to actively remove space debris from Earth orbit caused by space activities carried out by other States?

After tracing sustainability as a norm of general international law, the paper shows how it is also embedded in the body of international space law. It is held that while space debris is in principle legally protected under international law and enjoys the freedom of non-interference, a State of Registry may under certain circumstances not be entitled to exclude interference with an object under its jurisdiction and control. The paper offers examples from the law of the Sea where exclusive jurisdiction and absolute freedom of individual States withered away in the interest of other States and the international community as a whole.

The paper argues that the practice of “fire and forget” is a luxury of the past. Under international law States have to ensure the safe and sustainable access to and use of outer space in the long-term. On the one hand, it follows that States are under differing obligations with regard to the active removal of space debris. Remediation measures have to be conducted in a scope and within a timeframe that is adequate to avert collisional cascading and to maintain the space debris population at a sustainable level. On the other hand, States may invoke a right to remove in good faith space debris caused by other States.

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