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Author: Mr. David Eagleson Northumbria University, United Kingdom

## LIABILITY ASPECTS OF ACTIVE DEBRIS REMOVAL: PERSPECTIVES FROM THE LAW OF THE SEA

## Abstract

In recent years, the prospect of Active Debris Removal (ADR) has become much closer to a reality. ADR has been described as an essential mechanism for ensuring space safety and sustainability. This year, with the launch of Astroscale's ADRAS-J, the industry has taken yet another step towards having the capability to remove defunct space objects from orbit. Despite this, several legal questions must be resolved before this important technology can become a reality.

Chiefly amongst the legal questions surrounding ADR is the apportionment of liability of the ADR provider and the client spacecraft in the event of damage occurring during ADR operations. Whilst this is easily overcome between these parties by contractual liability clauses, such contracts do not govern liability to third parties, or with regards to jus cogens obligations. This liability dilemma must be resolved before Active Debris Removal can become a reality, as legal certainty is demanded by governments, operators, and insurers alike.

This paper will use a comparative analysis, reflecting on approaches in the international law of the sea to find workable solutions to the determination of legal liability in ADR operations. Despite being distinct fields of law, both the law of the sea and outer space law govern realms beyond the jurisdiction of sovereign States. The regimes also share an emphasis on obligations connected to environmental protection and due regard.

The law of the sea establishes a liability regime which is similar to the fault-based liability regime established for in-space activities by Article III of the Liability Convention of 1972. In particular, this paper will consider principles of liability set down in the Brussels Collision Convention of 1910, which provided that liability for damage caused by the collision of ships is fault-based. Furthermore, the paper will consider potential solutions based on principles from the International Convention on Salvage of 1989 and in the Nairobi Convention on the Removal of Wrecks of 2007, both applicable to the law of the sea. By taking inspiration from how these treaties apportion liability, the paper will highlight pragmatic solutions to clarify the apportionment of fault-based liability between ADR operators and ADR clients. The proposals made will balance the need for ADR operators to take due care with the need to reward those who take action to avert environmental harm.