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Policy, Legal, Institutional and Economic Aspects of Space Debris Detection, Mitigation and Removal
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DUAL USE TECHNOLOGY IN SPACE: HOW MIGHT WE REMOVE SPACE DEBRIS WITHOUT CAUSING A WAR?

Abstract

Almost everyone who works in space operations in any way understands that space debris is a significant problem, both by posing a threat to current and future operations and by being difficult to remove. The technical issues of debris removal are being addressed in a number of ways, with various methods of removal having been proposed, some of which are currently being developed and tested. However, those who are focused on the technical problems of debris removal often seem to ignore the serious non-technical problems of debris removal, specifically the legal and political ones.

Every object launched into space remains the property of its registered state owner in accordance with Article VIII of the OST, so pieces of space debris are not, in legal terms, abandoned and unwanted, but still belong to their registered owners. Thus while a bottle which floated in the ocean for years after being deliberately thrown into the ocean from a boat would become the property of anyone who retrieved it, a bottle which floated in Earth's orbit for years after being deliberately thrown from a spacecraft would still remain the property of its original owner.

Anyone attempting to remove space debris registered to another state could thus be accused of theft, or of causing damage to the property of a foreign state. Indeed, if it were to become possible to recover objects more or less intact from space, then since such objects might contain proprietary technology of a state, an attempt to recover an object belonging to another state would rightfully be considered theft and would likely cause a significant international incident. This also highlights the political problem of space debris removal, in that any technology which can be used to remove debris in space can also be used as a weapon; any technology which can be used on a defunct satellite could also be used on an active one, and any technology which could be used to decrease the possibility of a collision in orbit, could also be used to increase such a possibility.

This paper discusses the sorts of guidelines which ought to be applied to future technologies used for the removal of debris in space, in order to allow those technologies to be used for the betterment of all, while recognising the legal and political problems which their use would entail.