

SPACE DEBRIS SYMPOSIUM (A6)
Mitigation and Standards (4)

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DOMAINS OF APPLICATION FOR DEBRIS MITIGATION TECHNOLOGIES

Abstract

With a large number of technologies currently being developed for space debris mitigation, a new issue now surrounds the selection process for the applicability of particular technologies depending on the mission. Therefore the objective of this assessment is to develop an understanding of the most efficient deorbit technology taking into consideration characteristics of both the satellite and satellite orbit. The study will consist of three main tasks; 1.Detail the characteristics of eachdebris mitigation technology such as drag augmentation devices, tethers, solid propulsion systems to name just a few. Then for each technology parameters such as cost, mass, integration required with the host satellite, risk, current and expected TRL shall be defined. 2.Following this, the range of application for all technologies will then be assessed. For example, the altitude limitations for drag augmentation devices will be defined. 3.Having assessed the domain of applicability for each technology, the next assessment will be a detailed comparison of each technology, which will determine the most efficient technology for given satellite and orbital parameters.

The output from this study can be used as a guide during the early design phase of the mission in order to assist the designers in meeting the requirement to manouvre outside the protected regions in both LEO and GEO after mission operations.