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Author: Ms. Dulce Fernanda Lopez Salvador
TECNOLOGICO DE MONTERREY, Mexico, A01770936@tec.mx

SATELLITE WITH DRONES SYSTEM TO REDUCE THE SPACE DEBRIS PROBLEM

Abstract

The proliferation of space debris poses a significant threat to active missions worldwide, with no follow-up or analysis of the fate of objects once they complete their objectives, leading to their abandonment and transformation into space junk. To safeguard operational satellites, particularly in low orbits where debris concentration is highest, methods are required. One solution involves developing a satellite equipped with drones to address the space debris problem. By implementing technologies to capture retired satellites still in orbit, favorable outcomes could partially mitigate the escalation of the Kessler syndrome or the ablation cascade. This approach would minimize harm to numerous satellites, spacecraft, rockets, capsules, modules, and other space equipment while enabling the recovery of materials, parts, and other objects in orbit. Additionally, it could facilitate their maintenance and care.