

IAF ASTRODYNAMICS SYMPOSIUM (C1)
Late Breaking Abstracts (LBA) (LBA)

Author: Mr. VISHAL S
Rajalakshmi Engineering College, India, 210101048@rajalakshmi.edu.in

CUBESATS POWERED BY MINIATURE PROPULSION SYSTEM

Abstract

The satellite's lifetimes are short by design, they must constantly be replenished in order to maintain continuous service. CubeSats as miniaturized satellites designed for space missions, typically weighing a few kilograms. The present paper analyses the Research on the development of miniaturized propulsion systems suitable for CubeSats. Investigate the feasibility of using micro-thrusters, cold gas propulsion, or ion propulsion technologies to provide precise orbital maneuvers, formation changes, or de-orbiting capabilities for CubeSats, thereby extending their mission lifetimes and reducing space debris. It covers factors such as system efficiency, propellant selection, propulsion system testing, and regulatory requirements to ensure the safety and compliance of these systems. It also highlights the ongoing research and development efforts aimed at enhancing the performance and reliability of miniature propulsion systems for CubeSats. The utilization of miniature propulsion systems empowers CubeSats to take on more complex missions, thereby contributing to the scientific research and space explorations.