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# DESIGN OF CUBESAT AS LUNAR BASED RELAY STATIONS FOR INTERPLANETARY MISSIONS.

**Abstract**

CubeSats can be considered as potential utility spacecraft to explore interplanetary systems. A lunar base could provide a staging area for longer deep space missions. There are many on-going studies and initiatives taken for lunar base and mars base developments in the nearest future. In order to accomplish these higher objectives, there is a need for capacity building. High throughput satellites in the lunar orbit serve as the relay stations for interplanetary and interstellar spacecraft. Plasma thruster operating with high-density helicon source expected to mitigate the finite lifetimes of electric thruster. Efficient and flexible in space propulsion technique will enhance various interplanetary mission. A mission design and analysis of high throughput cubeSats for lunar orbit is presented in this paper. A preliminary design of the satellite architecture, communication system payload, sun-systems are given with detailed propulsion requirements.