SPACE EXPLORATION SYMPOSIUM (A3)
Moon Exploration – Poster session (2D)

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PLANNING AND ANALYSIS FOR COMMUNICATION SETUP USING LUNAR MISSIONS

Abstract

The moon has been the subject of several manned and unmanned missions over the past few decades. It can have a communication setup for communicating with Earth certain data, which can be used for improving the communication systems for future missions to the moon. A predictive system is developed to optimize and establish communication. This setup on successful establishment can be used for setting up communication links with satellites bound for other planets such as Mars. For this task, prime importance is given to decide the orbital maneuvers and transfer orbits for correctly positioning the satellite in the desired lunar orbit. The system comprises of launching a probe to the moon at a predetermined location, which has been decided after extensive work on the prediction of the orbit. The probe is meant for establishing contact with the earth-station operators. This serves as a technology demonstration of lunar landing missions at student level. Extensive mission planning is required for these tasks to integrate themselves as a system and for such a design to take shape, system engineering plays a vital role. The various design and technology issues for such a satellite are elucidated in this paper.