

IAF SPACE EXPLORATION SYMPOSIUM (A3)
Moon Exploration – Part 2 (2B)

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STATUS OF ROVER SYSTEM STUDY FOR JAPANESE LUNAR POLAR EXPLORATION MISSION

Abstract

The JAXA's space exploration scenario consists of several missions containing rover operation. Next target mission is the Lunar Polar Exploration Mission, a landing mission that investigate lunar volatiles such as water ice, focusing on exploring lunar resources, especially cold-trapped volatiles in lunar polar regions. The rover system of the Lunar Polar Exploration Mission should travel around wide area for months, sampling and analysing subsurface soils while traveling. Technologies for durability and functionality are the key for the mission success. One of the main subsystems to improve durability is the mobility subsystem, which has caused troubles of being stuck in the past missions. Other technologies to affect durability are the dust mitigation, power supply, and thermal control. This paper reports the current status of rover system study, focusing on the JAXA's technology development.