

SPACE EXPLORATION SYMPOSIUM (A3)
Poster Session (P)

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A SCHEME OF REENTRY MODULE FOR LUNAR EXPLORATION

Abstract

Collect soil sample from lunar surface and return back to earth is a key technology of lunar exploration project, in present paper, a new reentry module is designed to perform the task of digging from lunar ground, reentry atmosphere and safely landing. In order to realize these functions, a scheme of reentry module is proposed, which include load supporting structure, thermal protection and insulation system, measurement and control system, recovery system, container for lunar soil sample, and also the ballistic trajectory is used for reentry module. Futhermore, the whole module is characterized with high decelerability, aerodynamic stabilization, high acceleration flexibility and High heat flux resistance, the design of module has a relatively light mass and small range dispersion, which is easy to retrieve.