SPACE EXPLORATION SYMPOSIUM (A3)
Moon Exploration – Part 3 (2C)

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LUNAR MISSION PLANNING AND DATA DISSEMINATION WITH NASA'S LUNAR MAPPING AND MODELING PORTAL

Abstract

The Lunar Mapping and Modeling Portal (LMMP) provides a web-based Portal and a suite of interactive visualization and analysis tools enabling mission planners, lunar scientists, and engineers to access mapped lunar data products from past and current lunar missions. The portal provides easy-to-use tools for browsing, data layering and feature search, including detailed information on the source of each assembled data product and links to NASA's Planetary Data System. New features and capabilities are enhancing LMMP's value for mission planning and scientific research. This presentation will provide an overview of LMMP uses and capabilities, demonstrate its use in mission planning, and describe the benefits and processes involved in integrating your mission's data into LMMP.

LMMP is an integral project of NASA's Solar System Exploration Research Virtual Institute with development being done at the Jet Propulsion Laboratory. Its visualization and analysis tools allow users to perform analysis such as lighting and local hazard assessments including slope, surface roughness and crater/boulder distribution. LMMP continues to grow as a generalized suite of tools facilitating a wide range of activities including the planning, design, development, test and operations associated with lunar sortie missions; robotic (and potentially crewed) operations on the surface; planning tasks in the areas of landing site evaluation and selection; design and placement of landers and other stationary assets; design of rovers and other mobile assets; developing terrain-relative navigation (TRN) capabilities; deorbit/impact site visualization; and assessment and planning of science traverses.

Significant advantages are afforded by LMMP's features facilitating collaboration among members of distributed teams (e.g., mission planning team, mission proposal team). Team members can share visualizations and add new data to be shared either with the entire LMMP community or only with members of their own team. Sharing of multi-layered visualizations is made easy with the ability to create and distribute LMMP's digital bookmarks. LMMP is soliciting input from its community of users as the list of included data products is expanded.