

Thursday, March 15, 2007
POSTER SESSION II: LIVING AND WORKING ON THE MOON
6:30 p.m. Fitness Center

Liu Y. Schnare D. Park J. S. Hill E. Eimer B. Taylor L. A.

Shape Analyses of Lunar Dust Particles for Astronaut Toxicological Studies [#1383]

This abstract reports the shape distributions of five lunar samples and the simulant JSC-1Avf, for particles both $<1 \mu\text{m}$ and $> 1 \mu\text{m}$.

Qiao Y. Chen J. Han A.

Developing Cementitious Materials Using Lunar Soil Simulant [#1038]

An organic-inorganic nanohybrid of high flexure strength and low permeability is developed using lunar soil simulant. This technique has great potential in developing high-performance space infrastructural materials using locally harvestable resources.

Eimer B. C. Taylor L. A.

Dust Mitigation: Lunar Air Filtration with a Permanent-Magnet System (LAF-PMS) [#1654]

Returning to the Moon requires new ways to control the dust that is pervasive on the lunar surface. The LAF-PMS is a filter system that uses magnetic fields to remove the toxic lunar dust from pressurized areas.

Clark P. E. Curtis S. A. Minetto F. A. Keller J.

Finding a Dust Mitigation Strategy that Works on the Lunar Surface [#1175]

We discuss electrostatic dust control in the context of other methods. We propose compact, low power dust control based on electrostatic principles incorporating variable phase EMF electrostatic surfaces and reconfigurable particle guns.

Eimer B. C. Taylor L. A.

Lunar Regolith, Soil, and Dust Mass Mover on the Moon [#1662]

The LSMAC is able to collect/transport large amounts of lunar regolith without generating the large amount of dust that is "kicked up" with normal methods, preventing interference with equipment on the lunar surface, i.e., Moon based observatories.

Kókány A. Koltai D. Varga T. Szilágyi I.

Practical Questions of the Moving of Lunar Soil Materials on the Conditions of the Lunar Surface [#1395]

Loading the lunar moving equipment with local materials compensates the decrease of the necessary pushing force due to the smaller lunar gravity. The pushing force ensured by the lunar moving equipment increases, while the sticking friction remains the same.

Boldoghy B. Kummert J. Varga T. Szilágyi I. Bérczi Sz.

Practical Realization of Covering Lunar Buildings for Ensured Levelled Temperature Environment [#1380]

Lunar regolith packed in bags is used for covering buildings of levelled temperature to be created in lunar ditches, valleys or craters. Pre-packed regolith in uniform size and controllable quality can be applied for covering the buildings.