

**Thursday, March 15, 2007**  
**POSTER SESSION II: MOON: SOILS, POLES, AND VOLATILES**  
**6:30 p.m. Fitness Center**

Schultz R. A. Siddharthan R.

*Strength of Lunar Soil Using the Cam Cap Approach* [#1127]

We use a standard Cam Cap approach to model the strength of returned Apollo 12 lunar soil. Cohesion, friction, and volumetric changes (dilatational and compactional) are well captured by the model.

Crawford I. A. Fagents S. A. Joy K. H.

*The Survival of Ancient Solar Wind, Galactic Cosmic Ray Particles and Samples of the Early Earth in Lunar Palaeoregolith Deposits* [#1323]

Ancient lunar regoliths (palaeoregoliths) may contain a vital record of early solar system history if they can survive the thermal consequences of burial by overlying lava flows. We investigate the preservation potential of this record.

Christoffersen R. Keller L. P.

*Space Plasma Ion Processing of Ilmenite in the Lunar Soil: Insights from In-Situ TEM Ion Irradiation Experiments* [#1969]

Radiation processing of lunar ilmenite grains was studied using a tandem ion accelerator-transmission electron microscope. The ilmenite maintains a crystalline structure up to one order of magnitude higher dose of 1 MeV Kr ions compared to pyroxene.

Gerasimov M. V. Yakovlev O. I. Dikov Yu. P.

*The Role of Reaction of Disproportionation in the Redox Behavior of Iron During Impacts* [#1597]

Reduction of iron in a hot and dense impact-induced plume can proceed under control of reaction of disproportionation of oxygen and provide simultaneous formation of such strange assemblage as native iron, wustite, and magnetite.

Elphic R. C. Lawrence D. J. Eke V. R. Teodoro L. F. A. Taylor G. J. Bussey D. B. J.

*What Do Hydrogen Abundances at the Moon's South Pole Imply for Ice Prospecting in Shackleton Crater?* [#2193]

Analysis of Lunar Prospector neutron data yields ~0.4 wt% water-equivalent hydrogen in Shackleton crater. A large number of sample sites (>10) would be needed to confirm the presence of randomly distributed icy deposits within the crater.

Crotts A. Austin D. Barclay A. Bergier A. Chutjian A. Cseresnjcs P. Darrach M. Ebel D. Gorevan S. Hickson P. Hummels C. Joner M. Kratochvil J. Lukic D. Marka S. Marka Z. Nakamura Y. Radebaugh J. Savin D. W. Scharf C. Spiegel E.

*Probing Lunar Volatiles: Initial Ground-based Results* [#2294]

We describe several results from a large program to locate, explore and characterize lunar volatiles using techniques from the Earth, orbit and *in situ* at the Moon.

Crider D. H. Vondrak R. R.

*Understanding Stratigraphy in Lunar Polar Cold Traps* [#2225]

We present results from a Monte Carlo model of the evolution of water ice in lunar polar cold traps from gardening and weathering. We interpret them in terms of understanding existing data and planning for future lunar missions.