Thursday, March 16, 2006
POSTER SESSION II: LUNAR REGOLITH
7:00 p.m. Fitness Center

Levine J. Muller R. A. Renne P. R.
Implanted and Cosmogenic ^{38}Ar and ^{36}Ar in Lunar Impact Spherules **[#1190]**
We present argon isotopic data from lunar impact spherules, and discuss exposure histories of the spherules to the solar wind, to solar energetic particles, and to cosmic rays.

Starukhina L. V.
Impact Melting of Regolith Particles by Micrometeorites as a Mechanism of Soil Maturation **[#1147]**
Impact melting by micrometeorites can provide formation of reduced nanophase Fe grains in regolith particles. This enables regolith maturation on Mercury shielded from solar wind and on asteroids with projectile velocities sufficient for impact melting only.

Burger P. Shearer C. K. Vaniman D.
Microscale Distribution and Behavior of Th, REE, and K During Regolith Formation Processes on the Moon: Implications for Remote Sensing of the Surfaces of Airless Planetary Bodies **[#2097]**
Electron and ion microprobe analyses of Sm, Th, K and major elements in lunar regolith glasses are used to examine the Effect of impact melting on primary crustal signatures to more accurately interpret planetary data obtained through remote sensing.

Noble S. K. Keller L. P. Christoffersen R.
Nanometer-Scale Chemical Mapping of Space Weathered Lunar Soil: A New View **[#1819]**
Quantitative X-Ray mapping with a new generation FE-STEM reveals incredible complexity within lunar space weathering products. Rims are found to be heterogeneous at the nm-scale and differences are observed between products on silicates vs. oxides.

Abbas M. M. Tankosic D. Craven P. D. Hoover R. B. Taylor L. A. Spann J. F. LeClair A. West E. A.
Photoelectric Emission Measurements on Apollo 17 Lunar Dust Grains **[#1415]**
We present the first measurements of the photoelectric yields of micron-size dust grains, selected from sample returns of the Apollo 17 mission. The measured yields of individual dust grains are determined to be more than an order of magnitude larger than the bulk values reported in the literature.

Basu A.
A Mass-Balance Perspective on the Origin of Agglutinitic Glass **[#1679]**
Glass composition of individual lunar agglutinate grains is determined largely by the composition of a few soil grains, heterogeneous with respect to the bulk soil, impacted by a micrometeorite.

Liu Y. Thompson J. R. Taylor L. A. Park J.
Magnetic Properties of Unique Apollo 17 Soil 70051 **[#1945]**
The magnetic properties of unique Apollo 17 soil 70051, and comparison with several lunar soil simulants.

Mellin M. J. Taylor L. A. Patchen A. D.
Characterization of a Unique Soil Sample from the Apollo 17 Site, 70051 **[#2334]**
70051 has great potential as a ground truth for remote-sensing data of the Apollo 17 site. This soil is also important for in-situ resource utilization studies. Such significance has prompted us to perform a detailed characterization of this unique soil.