Thursday, March 22, 2012
POSTER SESSION II: AIRLESS BODIES EXPOSED:
REGOLITH PROPERTIES AND SPACE ENVIRONMENT INTERACTIONS
6:00 p.m. Town Center Exhibit Area

Mahanti P. Robinson M. S. Thompson S. D. Humm D. C.
Searching for Lunar Horizon Glow Using LROC Images **[#1638]**
The LRO camera aboard the LRO spacecraft performed its first series of experiments in an attempt to detect the weak signal of putative lunar horizon glow. Imaging geometry, image analysis procedures, and results are presented in this work.

Szalay J. R. Horanyi M.
Modeling Dust Clouds on the Moon **[#1796]**
A one-dimensional hybrid code, treating electrons and ions as fluids and the dust grains as particles, has been developed to constrain the properties of levitating dust clouds. We will discuss the preliminary results and compare these to existing observations.

Senshu H. Kobayashi M. Wada K. Namiki N. Hirata N. Miyamoto H. Matsui T.
Photoelectric Dust Levitation on Eros and Itokawa **[#1826]**
Photoelectric effect levitate dust particles around asteroids. Hayabusa might have captured such dust. In this study we simulate vertical motion of dust grain with various size and initial velocity launched from Eros and Itokawa.

Tankosic D. Abbas M. M.
Laboratory Measurements on Charging of Individual Micron-Size Apollo-11 Dust Grains by Secondary Electron Emission **[#1623]**
We present some examples of the complex nature of secondary electron emissions from lunar dust grains levitated in an electrodynamic balance, and show that the measurements are unaffected by the variation of the AC field employed in the experiments.

Samad R. L. Poppe A. R. Halekas J. S. Delory G. T. Angelopoulos V. Farrell W. M.
Direct Observations of Lunar Pickup Ions in the Magnetosphere Tail-Lobes by ARTEMIS **[#2352]**
We present ARTEMIS observations of pickup ions on the dayside of the Moon in the terrestrial magnetotail lobes. We attempt to determine the composition of these ions, presumably from either the surface or the exosphere, via ion tracing simulations.

Herzog G. F. Delaney J. S. Lindsay F. Alexander C. M. O'D. Chakrabarti R. Jacobsen S. B. Whattam S. Korotev R. Zeigler R. A.
Magnesium and Silicon Isotopes in HASP Glasses from Apollo 16 Lunar Soil 61241 **[#1579]**
Five HASP glasses and two lunar-impact spherules give solar system (SS) values for δ^{26}Mg; in five other HASPs δ^{26}Mg is below SS. For all samples we find δ^{30}Si<SS. Partial recondensation of vapor may be important in these samples.

Binnie S. A. Nishiizumi K. Welten K. W. Caffee M. W.
Lunar Regolith Activity Inferred from Cosmogenic Radionuclides ^{26}Al and ^{36}Cl in Core 60014/60013 **[#1900]**
Lunar surface processes are investigated by measuring cosmogenic ^{26}Al and ^{36}Cl concentrations in core 60014/60013. Our results suggest a layer of impact ejecta around 1.5 cm thick blanketed this site sometime in the last 1.1 m.y.

Cooper B. L. McKay D. S. Fruland R. L. Gonzalez C. P.
Laser Diffraction Techniques Replace Sieving for Lunar Soil Particle Size Distribution Data **[#2900]**
The laser diffraction method is rapid and reproducible, taking less than half an hour to produce a complete size distribution covering hundreds of size bins and providing size data down to 1 micrometer, an impossible task for sieving.

Fu X. H. Zou Y. L. Zheng Y. C. Zhang F.
Effects of Space Weathering on Diagnostic Spectral Features: Results from He+ Irradiation Experiments **[#1272]**
We performed ion irradiation of mineral samples with 50 keV He^{+}, aimed to investigate ion irradiation effects on diagnostic spectral features of minerals, including olivine, basaltic glass, and ilmenite.

Christoffersen R. Rahman Z. Keller L. P.
Solar Ion Sputter Deposition in the Lunar Regolith: Experimental Simulation Using Focused-Ion Beam Techniques **[#2614]**
Uncertainties remain about the relative roles of solar ion sputter deposition and impact vapor deposition for forming "rims" on lunar regolith grains. We have adapted FIB techniques to study the role of sputter deposition in rim formation.

Braden S. E. Robinson M. S. Denevi B. W. Solomon S. C.
Immature Craters Mature Faster on Mercury than on the Moon **[#2872]**
Mercury Dual Imaging System and Lunar Reconnaissance Orbiter Camera observations of craters with high-reflectance continuous ejecta and/or rays on the Moon and Mercury are consistent with faster space weathering on Mercury.

Schwadron N. A. Baker T. Blake B. Case A. W. Cooper J. F. Joyce C. Kasper J. Kozarev K. Mislinski J. Mazur J. Posner A. Rother O. Smith S. Townsend L. W. Wilson J. Zeitlin C. Spence H. E.
Lunar Radiation Environment and Space Weathering from the Cosmic Ray Telescope for the Effects of Radiation (CRaTER) **[#2103]**
The Sun is now emerging from a deep protracted solar minimum when galactic cosmic ray fluxes are at their highest levels. CRaTER measurements open a critical window on the history of the radiation environment, suggesting a changing space environment.

Miura Yas.
Significant Role for Regolith Soils to Produce Carbon-Bearing Gases to the Interior on the Moon and Asteroids Compared with Earth-Type Planets **[#2920]**
Cratered surface of three-type surfaces on the Moon and Earth-type planets shows voids-rich regolith soils as significant roles of light-gasses transportation in the interior on the Moon and asteroids without major evaporated atmosphere.