Thursday, March 10, 2011
POSTER SESSION II: THE MOON AS AN AIRLESS BODY
6:00 p.m. Town Center Exhibit Area

Colaprete A. Shirley M. Heldmann J. Wooden D. H.
The Final Minute: Results from the LCROSS Solar Viewing NIR Spectrometer **[#2037]**
This talk will present results from the LCROSS solar viewing NIR spectrometer. This instrument provided solar occultation data as the instrument flew through the impact ejecta and vapor cloud.

Rivkin A. S. Sunshine J. M. Blewett D. T. Cohen B. A. Hurley D. M. Grier J. A. Hibbitts C. A. Klima R. L.
Ground Based Observations of Lunar Water: Current Status **[#2196]**
We have begun a program of ground-based lunar observation in the 2–4 μm region, following up on the discovery of water in the lunar regolith. We will present the results from our first observing run, focusing on the Reiner Gamma region.

Farrell W. M. Stubbs T. J. Jackson T. L. Colaprete A. Heldmann J. L. Schultz P. H. Killen R. M. Delory G. T. Halekas J. S. Marshall J. R. Zimmerman M. I. Collier M. R. Vondrak R. R.
Electrical Evolution of a Dust Plume from a Low Energy Lunar Impact: A Model Analog to LCROSS **[#1760]**
We present a model of an impact plume grain charge evolution in a prevailing solar wind and photo-electron plasma environment.

Litvak M. L. Mitrofanov I. G. Sanin A. B. Boynton W. V. Chin G. Garvin J. B. Golovin D. Evans L. G. Harshman K. Kozyrev A. S. Malakhov A. McClanahan T. Milikh G. Mokrousov M. Sagdeev R. Shevchenko V. Shvetsov V. Smith D. E. Starr R. Tretyakov V. I. Trombka J. Varenikov A. Vostrukhin A. Zuber M. T.
LEND Studies of Diversity of PSRs on the Moon **[#1765]**
Observation, analysis and discussion of Moon north and south polar shadow regions are presented based on data from LEND instrument aboard LRO mission.

Sanin A. Mitrofanov I. Boynton W. Chin G. Evans L. Golovin D. Harshman K. Kozyrev A. Litvak M. Malakhov A. McClanahan T. Milikh G. Mokrousov M. Sagdeev R. Z. Shevchenko V. Schvetsov V. Starr R. Trombka J. Vostrukhin A.
Global Mapping of Neutron Emission from the Moon According to LEND Data **[#1797]**
We are presenting global and polar maps and analysis of thermal, ephithermal and fast neutrons that have been measured by the LEND instrument, which is the large orbital neutron telescope for orbital mapping of the Moon's neutron albedo.

McClanahan T. P. Mitrofanov I. G. Boynton W. V. Chin G. Starr R. D. Evans L. G. Droege G. Sanin A. Garvin J. B. Trombka J. Sagdeev R. A. Milikh G. Nandikotkur G.
Insolation Effects on the Moon: High Topographic Slope Observations of the LRO LEND and LOLA Instruments **[#1970]**
Recent results indicate some Hydrogen (H) concentrations lie outside permanent shadow regions. In this study we consider insolation effects using correlations of LRO LEND epithermal neutron maps and derivations from LOLA topography.

Hensley S. Gurrola E. Harcke L. Marechal N. Weintraub L. Slade M. Quirk K. Wilson B. Yun S. Szeliga W. Srinivasan M. Lee C. Dickinson R. Bloom R. Karamyan G. Lilje A. Jao J. De Jong E.
Goldstone Solar System Radar High Resolution Imagery and Topography of The Lunar South Pole Region **[#1813]**
Upgraded GSSR radar is used to generate 5 m resolution imagery of the moon's south polar region and generate 15 m topographic maps. LCROSS impact point identified in the GSSR imagery.

Wilson J. K. Spence H. E. Kasper J. Golightly M. J. Blake J. B. Mazur J. E. Townsend L. Case A. Looper M. D.
First Cosmic Ray Proton Albedo Map of the Moon **[#1852]**
We have constructed a cosmic ray proton albedo map of the Moon using the previously reported strong presence of > 60 MeV protons coming up from the lunar surface.

Lawrence D. J. Eke V. R. Elphic R. C. Feldman W. C. Funsten H. O. Prettyman T. H. Teodoro L. F. A.
Compositional Dependencies of Lunar High-Energy Epithermal Neutrons **[#2206]**
The compositional dependence of high-energy (E > 1 keV) epithermal (HEE) neutrons is studied in relation to neutron measurements from the Lunar Reconnaissance Orbiter, and how these HEE neutrons may constitute a background in the observed orbital data.

Likhanskii A. Poppe A. Piquette M. Messmer P. Horanyi M.
Plasma Sheath at Moon Craters: From Sunrise to Sunset **[#2285]**
This poster presents the simulation results of plasma sheath formation above lunar craters in presence of solar wind collection, photoelectron emission, and external magnetic field.

Retherford K. D. Gladstone G. R. Stern S. A. Egan A. F. Miles P. F. Versteeg M. H. Slater D. C. Davis M. W. Parker J. Wm. Kaufmann D. E. Greathouse T. K. Steffl A. J. Mukherjee J. Horvath D. Feldman P. D. Hurley D. M. Pryor W. R. Hendrix A. R.
Lyman Alpha Mapping Project (LAMP) Far-Ultraviolet Maps of the Lunar Poles **[#2496]**
LRO Lyman Alpha Mapping Project (LAMP) far-UV polar albedo maps are produced using an innovative nightside observing technique to investigate the intriguing volatile processes within permanently shaded regions (PSRs).

Quinn D. P. Cahill J. T. S. Bussey D. B. J. McGovern J. A. Spudis P. D. Noda H. Ishihari Y.
Exploration Potential for Highly Illuminated Points at the Lunar Poles Using Kaguya, LOLA, and LROC Data Sets **[#2518]**
This study updates Kaguya illumination modeling with LOLA topography. Model results are compared to the findings of previous studies, and LROC images are used to evaluate the exploration potential of locations of near-continuous illumination.

Speyerer E. J. Robinson M. S.
Analysis of Highly Illuminated Zones Near the Lunar South Pole **[#2540]**
The Moon's slightly tilted axis leaves some areas near the pole in permanent shadow, while other areas remain sunlight for the majority of the year. LROC data is used to analyze these illuminated zones that remain illuminated over 90% of the year.

Dove A. Robertson S. Wang X. Poppe A. Sternovsky Z. Horányi M.
Characterization of a Laboratory Simulated Lunar Photoelectron Sheath **[#2650]**
We generate photoelectron sheaths by shining ultraviolet radiation on surfaces in vacuum. We measure the electron density and temperature, Debye length, and potential profiles above the surface to understand the sheath structure. Measurements are compared to model results.

Zimmerman M. I. Farrell W. M. Stubbs T. J. Halekas J. S.
The Plasma Wake Downstream of Lunar Topographic Obstacles: Preliminary Results from 2D Particle Simulations **[#1836]**
We have performed fully 2D particle-in-cell simulations of plasma wakes in shadowed lunar craters. We will discuss preliminary results on wake formation and the effects of a dynamic lunar surface on the electrical environment within craters.

Spicuzza M. J. Valley J. W. Fournelle J. Huberty J. M. Treiman A.
Native Silicon and Fe-Silicides from the Apollo 16 Lunar Regolith: Extreme Reduction, Metal-Silicate Immiscibility, and Shock Melting **[#2231]**
Native silicon and Fe-silicides occur in a complex anorthositic grain from the Apollo 16 lunar regolith. We suggest formation of native silicon and Fe-silicides result from metal-silicate immiscibility, most likely the result of shock melting.

Miura Y. Tanosaki T. Udagawa M.
Significance of Nano-Siderite Formation for Lunar Magnetic Change from Iron Metals **[#1373]**
It is found that bulk compositional data cannot show direct relation to the lunar magmatic sources in detail, but iron- and carbon-bearing nanograins have been obtained in lunar and iron meteorites, which can be applied to the Apollo samples.

Kramer G. Besse S. Neish C. Tsunakawa H. Haruyama J. Saito Y. Matsunaga T. Ogawa Y. Ohtake M. Futaana Y. Wieser M. Bandfield J. Glotch T. Harnett E.
New Data Integration Towards Solving the Mystery of the Lunar Swirls **[#1965]**
We are beginning a re-evaluation of the lunar swirls through the synthesis of new instrument data and the active collaboration of experts in the scientific fields from which these instruments derive.

Coman E. I. Blewett D. T. Hawke B. R. Gillis-Davis J. J.
Lunar Swirls: How Dark Are "Dark Lanes"? **[#1096]**
Image profiles across several prominent lunar swirls have been analyzed to determine the relation of dark lane reflectance to that of normal weathered regolith and ultimately the extent to which lunar crustal magnetization affects soil maturation.

Dukes C. A. Baragiola R. A.
Sputtering of Na from the Lunar Surface: Laboratory Measurements **[#2357]**
We have irradiated silicate minerals with and without deposited Na-coatings, using 4 keV He^+, and measured a sputtering cross section for adsorbed-Na ($\sigma \approx 1 \times 10^{-15}$ cm^2 $atom^{-1}$). A large fraction of the Na is sputtered as ions rather than as neutrals.