Thursday, March 21, 2013 [R723]
POSTER SESSION: GETTING RESULTS FOR THE MOON:
DATA FUSION, MODEL IMPROVEMENTS, AND EMERGING TECHNOLOGY
6:00 p.m. Town Center Exhibit Area

Bamford R. A. Alves E. P. Kellett B. Bradford W. J. Silva L. et al. ***POSTER LOCATION #353***
Lunar Swirls and Mini-Magnetospheres: Laboratory Experiments and Kinetic Simulations of the Plasma Processes of the Very Small **[#1292]**
Electron-scale collisionless plasma processes in theory simulations and laboratory experiments are shown to account for in situ observations made by spacecraft.

Poston M. J. Aleksandrov A. B. Grieves G. A.
Hibbitts C. A. Dyar M. D. et al. ***POSTER LOCATION #354***
Thermal Stability of Adsorbed Water Molecules on Lunar Materials **[#2177]**
Experimental determination of thermal desorption activation energies for water on lunar samples and implications for water retention and migration on the Moon.

Jordan A. P. Stubbs T. J. Joyce C. J. Schwadron N. A. Spence H. E. et al. ***POSTER LOCATION #355***
The Formation of Molecular Hydrogen from Water Ice in the Lunar Regolith by Energetic Charged Particles **[#2668]**
Energetic charged particles can dissociate water in the lunar regolith and create molecular hydrogen. We estimate how much forms and compare with observations.

Grava C. Chaufray J.-Y. Retherford K. D.
Gladstone G. R. Hurley D. M. et al. ***POSTER LOCATION #356***
Lunar Exospheric Argon Modeling **[#2804]**
We will present preliminary results of a MC model of lunar Ar exosphere, in order to explain its behavior and its detectability by LRO/LAMP UV spectrograph.

Patrick E. L. Mandt K. E. Escobedo S. Winters G. Miller G. et al. ***POSTER LOCATION #357***
Polar Regolith Environment Molecular Impact Simulation Experiment (PREMISE) **[#2996]**
A laboratory system to simulate the lunar surface was constructed for modeling volatile gas exposure to the lunar regolith.

Zimmerman M. I. Carter L. M. Farrell W. M. Bleacher J. E. Petro N. E. et al. ***POSTER LOCATION #358***
Electromagnetic Simulations of Ground-Penetrating Radar Near Lunar Pits and Lava Tubes **[#1761]**
Full-wave simulations of ground-penetrating radar can resolve lunar pits and tubes, enabling studies of “where to hide” from solar radiation and plasma.

Thompson T. W. Ustinov E. A. ***POSTER LOCATION #359***
Updated Model of Radar Backscatter for Rough Lunar Craters **[#1051]**
Modeling of radar backscattering from lunar craters based on a mixture of specular and diffuse scattering was updated based on unpublished 1980s data.

Dhrarmendra Pandey Sriram Saran Anup Das Manab Chakraborty ***POSTER LOCATION #360***
A Simplistic Approach to Model Radar Backscatter from Lunar Regolith **[#1941]**
A simple two-layer radar backscatter model based on rough surface scattering was implemented to study the physical properties of the lunar regolith.

Pandey D. Das Anup. Saran Sriram. Chakraborty Manab. ***POSTER LOCATION #361***
Scattering Characteristics of Lunar Regolith with Respect to Dual Frequency SAR: Preliminary Simulation Results **[#1269]**
This work describes preliminary simulation results of radar backscatter over the lunar surface for Chandrayaan-2 dual-frequency SAR ISRO’s future mission.

Jordan A. P.   Stubbs T. J.   Wilson J. K.   Schwadron N. A.   Spence H. E. ***POSTER LOCATION #362***
Dielectric Breakdown in the Lunar Regolith **[#2433]**
Energetic charged particles can deposit their charge within the lunar regolith, creating strong subsurface electric fields and perhaps dielectric breakdown.

Colaprete A.   Elphic R. C.   Landis D.   Karcz J.   Osetinsky L.   et al. ***POSTER LOCATION #363***
Overview of the LADEE Ultraviolet-Visible Spectrometer: Design, Performance, and Planned Operations **[#2293]**
This talk will detail the design, performance, and planned operations of the LADEE Ultraviolet and Visible Spectrometer.

Elphic R. C.   Hine B.   Delory G. T.   Salut J. S.   Noble S.   et al. ***POSTER LOCATION #364***
The Lunar Atmosphere and Dust Environment Explorer (LADEE): T-Minus 6 Months and Counting **[#3112]**
As of March 2013, the LADEE mission is six months from launch. Find out what mysteries from the Apollo era LADEE will attempt to unveil.

Ren X.   Liu J. J.   Wu F. L.   Wang F. F.   Zhang X. X.   et al. ***POSTER LOCATION #365***
Studying on the Calibration Method for Chang'e-3 Pancam **[#1556]**
Camera Calibration for Chang'e-3 Panoramic Camera (Pancam).

Keller J. W.   Vondrak R. R.   McClanahan T. P.   Garvin J. B.   Petro N. E. ***POSTER LOCATION #366***
Recent Results and Plans for the Extended Science Mission for the Lunar Reconnaissance Orbiter Mission **[#1951]**
Update of the Lunar Reconnaissance Orbiter Mission, including a description of the extended mission and recent results.

Boyd A. K.   Mahanti P.   Humm D. C.   Robinson M. S. ***POSTER LOCATION #367***
Challenges and Successes of In-Flight LROC WAC Dark Calibration **[#1943]**
Logistics and behavior of the LROC Wide Angle Camera dark calibration. The high data rate of LROC yields calibration results that are rare in planetary missions.

Sato H.   Robinson M. S.   Mahanti P.   Boyd A. K. ***POSTER LOCATION #368***
Temperature Dependent Spectral Responsivity of the LROC WAC **[#2412]**
We corrected the global color artifacts in LROC WAC multispectral mosaics by calculating the spectral responsivity change as a function of CCD temperature.

Su J. J.   Usikov D.   Sagdeev R.   Milikh G.   Chin G. ***POSTER LOCATION #369***
The Model of "Surficial" Water Cycle to Explain Recent Observational Indication of the Presence of Lunar Hydration Cycle Based on Time Variation of Lunar Epithermal Netron Flux **[#3001]**
We report on the use of Geant4 Monte Carlo simulations to analysis of variations of hydrogen concentration.

Elphic R. C.   Colaprete A.   Deans M.   Heldmann J. L.   Sanders G.   et al. ***POSTER LOCATION #370***
Prospecting for Polar Volatiles: Results from the RESOLVE Field Test **[#3012]**
The RESOLVE analog mission simulation in Hawai'i accomplished all major goals for a lunar polar volatiles mission.

Cheek L. C.   Pieters C. M. ***POSTER LOCATION #371***
Laboratory Reflectance Spectroscopy of Lunar Anorthosites: Implications for Interpreting the Mineralogy of the Moon's Highland Crust from Remote Sensing Data **[#2387]**
Reflectance spectra of four Apollo 16 anorthosites are reported and analyzed in comparison with plagioclase separates from various lunar rock types.

Serventi G.   Carli C. Ph.D.   Sgavetti M. ***POSTER LOCATION #372***
Plagioclase Influence in Mixtures with very low Mafic Mineral Content **[#1490]**
In this abstract we describe plagioclase behavior when mixed with low mafic mineral contents, in order to understand lunar highland mineralogical composition.

Arimoto T. Ohtake M. Haruyama J. Iwata T. ***POSTER LOCATION #373***
Composition and Crystallinity Analysis of Lunar Dark Mantle Deposits **[#1473]**
We estimated composition and crystallinity of dark mantle deposits on the Moon by using SELENE MI data, and suggest a heterogeneity of lunar mantle composition.

Saranathan A. M. Parente M. ***POSTER LOCATION #374***
Automatic Extraction of Unique Spectral Signatures from the M3 Database **[#3056]**
A parameter based method for automatic end-member detection for M^3 data using linear unmixing algorithms.

Clenet H. Isaacson P. J. Gillet Ph. ***POSTER LOCATION #375***
Systematic Mapping of Mafic Minerals on the Moon: An Improved Approach Based on Modified Gaussian Model Applied to M^3 Data **[#1494]**
We studied Stevinus crater region with M^3 data. MGM is used to characterize mafic rocks. We observe local compositional variations in pyroxene composition.

Zhang W. Bowles N. E. ***POSTER LOCATION #376***
Mapping Lunar TiO2 and FeO with Chandrayaan-1 M^3 Data **[#1212]**
In this study, visible to near-infrared reflectance data acquired by the Moon Mineralogy Mapper are used to investigate the mineralogy of the lunar surface.

Bhatt M. Mall U. Wöhler C. Bugiolacchi R. Berezhnoy A. et al. ***POSTER LOCATION #377***
Modifications to the Iron Abundance Algorithm Based on Moon Mineralogy Mapper Imager On-Board Chandrayaan-1 **[#1590]**
The FeO abundance estimation algorithm based on the 2-μm absorption band has been modified for photometrically and topographically corrected M^3 data.

Cahill J. T. S. Klima R. L. Lawrence D. J. Hagerty J. J. Blewett D. T. ***POSTER LOCATION #378***
Leveraging M^3 and Diviner Data to Resolve Global and Regional Differences in Lunar Iron Abundance **[#2442]**
An effort to resolve differences in lunar surface FeO abundance estimates derived from Clementine, Lunar Prospector, M^3, and DIVINER.

Chen S. B. Wang J. R. Guo P. Z. ***POSTER LOCATION #379***
Comparison Between the Spectral Unmixing and Multiple Regression Analysis for Mineral Retrieval from M^3 Data **[#1893]**
There present the comparison between spectral unmixing and multiple regression analysis to retrieve the mineral abundance from M^3 data. It depends on mineral.

Liu D. Li L. Prof. Zhang Y. Z. ***POSTER LOCATION #380***
Sensitivity Analysis for Hapke's Radiative Transfer Model **[#1290]**
Quantitative analysis of relative significance of factors in regulating the Hapke's RTM simulated reflectance via EFAST.

Ishihara Y. Kouyama T. Nakamura R. Tsuchida S. Matsunaga T. et al. ***POSTER LOCATION #381***
Developpment of a New Lunar Radiometric Calibration Model Based on SELENE/SP for Japanese Future Hyper Spectral Mission HISUI **[#1726]**
A new lunar calibration model for Earth observation sensors is developed using SELENE/SP lunar reflectance and photometric function model.

Antonenko I. ***POSTER LOCATION #382***
Re-Examining the Identification of Dark-Haloed Impact Craters: New Criteria for Modern Data Sets **[#2607]**
Examination of dark-haloed impact craters in new lunar data suggests identification should focus on composition and topography, not halo symmetry and maturity.

Jackson T. L. Farrell W. M. ***POSTER LOCATION #383***
Rover Wheel Charging Within a Lunar Crater **[#1569]**
We advance the wheel charging model by varying parameters and incorporating a new dust sticking term to determine how dust affects charge remediation.