Thursday, March 21, 2013 **[R722]**
POSTER SESSION: LUNAR REMOTE SENSING
6:00 p.m. Town Center Exhibit Area

Hood L. L. Richmond N. C. Spudis P. D. ***POSTER LOCATION #285***
Origin of Stron Lunar Magnetic Anomalies: More Detailed Mapping and Examinations of LROC Imagery in Regions Antipodal to Young Basins **[#1250]**
Five young lunar basins have likely antipodal magnetization and landform modification signatures; an origin involving converging ejecta deposition is discussed.

Wang X.-Q. Cui J. Li H. Li C.-L. Yan J. et al. ***POSTER LOCATION #286***
The Solar Wind Interactions with Lunar Magnetic Anomalies: A Case Study of the Chang'e-2 Plasma Data Near the Serenitatis Antipode **[#1381]**
We present the first and preliminary results on the near-Moon plasma environment, based on the spectrogram data obtained with the SWID onboard Chang'e-2.

Spence H. E. Blake J. B. Case A. W. Golightly M. J. Joyce C. et al. ***POSTER LOCATION #287***
Lunar Energetic Proton Albedo: Measured and Modeled Energy Spectra and Other Properties **[#2667]**
We use LRO CRaTER data to quantify properties of the lunar energetic proton albedo; models reveal it is a byproduct of cosmic-ray interactions in the regolith.

Wilson J. K. Spence H. E. Schwadron N. Golightly M. J. Case A. W. et al. ***POSTER LOCATION #288***
Cosmic Ray Albedo Proton Yield Correlated with Lunar Elemental Abundances **[#2475]**
The average yield of albedo protons from the maria is 1.1% higher than from the highlands, and local peaks in the yield correspond to peaks in trace elements.

Zhang J. Ling Z. C. ***POSTER LOCATION #289***
Lunar Surface Reflectance Observed by the Chang'e-1 Imaging Interferometer (IIM) **[#3100]**
Chang'E-1 IIM reflectance validation.

Zheng Y. C. Zhu Y. C. Tsang K. T. Chan K. L. ***POSTER LOCATION #290***
Geologic Discoveries in Maria Basaltic Flow as Revealed by CE-2's Microwave Observation **[#1445]**
Here we show the new geologic discoveries about maria basaltic flow as revealed from China's Chang'e-2 four-channel microwave observation of the Moon.

Tsang K. T. Zheng Y. C. Chan K. T. ***POSTER LOCATION #291***
Chang'e Microwave Brightness Temperature Data and Lunar Surface Characteristics **[#1947]**
With the much improved CE microwave TB data, we study local lunar surface and subsurface characteristics in combination with radiation transfer modeling result.

Zhang W. Bowles N. E. ***POSTER LOCATION #292***
Chang'e-1 and Chang'e-2 Lunar Microwave Radiometer Data Analysis and Lunar Subsurface Temperature Profile Modelling **[#2025]**
We proposed a new microwave transfer model to assist with retrieving lunar heat flow and subsurface temperature structure, and CE-1 and CE-2 data were analyzed.

Fa W. Fang T. ***POSTER LOCATION #293***
Analysis of High-Frequency Brightness Temperature of Lunar Surface from Chang'e-2 Microwave Radiometer and Investigations of Mean Diurnal Temperature of Regolith Layer **[#1472]**
We analyzed factors that affect lunar surface brightness temperature using Chang'e-2 microwave data, and mean diurnal temperature of regolith was inverted.

Ishiyama K. Kumamoto A. Ono T. Yamaguchi Y. Haruyama J. et al. ***POSTER LOCATION #294***
Estimation of the Permittivity and Porosity of the Lunar Uppermost Basalt Layer Based on the Observation Data of the SELENE Spacecraft **[#1493]**
The permittivity of the lunar uppermost basalt layer is estimated by using a new estimation method. Using the result, the porosity is also estimated.

Hareyama M. Karouji Y. Yamashita N. Fujibayashi Y. Nagaoka H. et al. ***POSTER LOCATION #295***
Lunar Iron and Uranium Distribution Obtained by SELENE(Kaguya) Gamma-Ray Spectrometer **[#1871]**
This work reports global abundance maps of lunar uranium and iron oxide and their correlation obtained by SELENE (Kaguya) Gamma-ray Spectrometer.

Kim K. J. Nagaoka H. Hasebe N. Hamara D. Rodriguez J. A. P. et al. ***POSTER LOCATION #296***
Significance of Kaguya GRS-Detected Si Bundance and Distribution **[#2034]**
A Si elemental map was produced by the data of the Kaguya Gamma Ray Spectrometer (KGRS) and the KGRS data were compared with Apollo data.

Peplowski P. N. Lawrence D. J. ***POSTER LOCATION #297***
New Insights into the Global Composition of the Lunar Surface from High-Energy Gamma Rays Measured by Lunar Prospector **[#1541]**
This new technique for analyzing gamma-ray spectra reveals previously unobserved compositional variability, including a global Mg abundance map.

Livengood T. A. Chin G. Mitrofanov I. G. Boynton W. V. Sagdeev R. Z. et al. ***POSTER LOCATION #298***
Hydrogen-Bearing Volatiles at the Lunar Terminator **[#2946]**
LRO/LEND detects evidence of hydrogen concentrated at the lunar equatorial terminator.

Miller R. S. Lawrence D. J. ***POSTER LOCATION #299***
Identification of Surface Hydrogen Enhancements Within Shackleton Crater at the Moon's South Pole **[#2228]**
Enhanced hydrogen abundances have been identified within the Moon's Shackleton Crater using fast neutron data from the Lunar Prospector mission.

Yang H. W. Zhao W. J. Wu Z. H. ***POSTER LOCATION #300***
Water Ice on the Moon **[#1885]**
Overviews of detection of water ice on the Moon from historical and recent missions. New scientific views for it are established in multidiscipline integration.

Sanin A. B. Mitrofanov I. G. Litvak M. L. Boynton W. V. Chin G. et al. ***POSTER LOCATION #301***
Estimation of the Hydrogen Concentration in Lunar South Polar Regions of Permafrost in Vicinity of Cabeus and Shoemaker Craters **[#2741]**
Results of estimations of hydrogen concentration in regolith at vicinity of Cabeus and Shoemaker craters are presented. The estimations are based on LEND data.

Riner M. A. Lucey P. G. Neumann G. A. Smith D. E. Zuber M. T. et al. ***POSTER LOCATION #302***
Albedo of Permanently Shadowed Regions (PSR) at the Lunar South Pole **[#2677]**
Reflectance measurements from LOLA show that normal albedos of permanently shadowed regions at the south pole to be anomalously bright.

Koeber S. D. Robinson M. S. ***POSTER LOCATION #303***
LROC Observations of Permanently Shadowed Regions **[#2588]**
NAC images will be analyzed for evidence of surface frosts, unusual morphologies from ice rich regolith, and potential landing sites for future in situ work.

Bhattacharya S. Saran S. Chauhan P. Das A. Ajai ***POSTER LOCATION #304***
Study of Regional Dark Mantle Deposits (RDMDs) at Sinus Aestuum in the Central Nearside of the Moon Using High Resolution Data from Recent Lunar Missions **[#1387]**
Composition and morphology Aestuum RDMDs have been studied using high-resolution data from recent lunar missions. Multiple fissure/vents have been identified.

Klimczak C. ***POSTER LOCATION #305***
Igneous Dikes on the Moon: Evidence from Lunar Orbiter Laser Altimeter Topography **[#1391]**
Topographic signatures across lunar troughs associated with mare-filled basins indicate that they are the surface manifestations of igneous dikes at depth.

Tye A. R. Head J. W. ***POSTER LOCATION #306***
Mare Tranquillitatis: Distribution of Mare Domes, Relation to Broad Mare Rise, and Evidence of a Previously Unrecognized Basin from LOLA Altimetric Data **[#1319]**
Inhomogeneous mare dome distribution within a previously unrecognized impact basin and coextensive broad mare rise indicate an important mare source region.

Clegg R. N. Jolliff B. L. Robinson M. S. Hapke B. W. Plescia J. B. ***POSTER LOCATION #307***
Photometry of Lunar Landing Sites Using LROC NAC Images and Hapke Modeling **[#2171]**
The effects of rocket exhaust on lunar soil reflectance properties have been investigated using LROC NAC images and Hapke photometric modeling.

Retherford K. D. Greathouse T. K. Gladstone G. R.
Hurley D. M. Parker J. Wm. et al. ***POSTER LOCATION #308***
LRO-Lyman Alpha Mapping Project (LAMP) Observations of the GRAIL Impacts **[#3004]**
LRO/LAMP detected emissions from Hg and H atoms in the expanding gas plumes from the GRAIL spacecraft impacts on 17 December 2012.

Hurley D. M. Retherford K. D. Greathouse T. K.
Gladstone G. R. Stern S. A. et al. ***POSTER LOCATION #309***
Modeling the Vapor Release from the GRAIL Impacts on the Moon **[#2029]**
Simulations of the vapor plume produced by the impacts of the GRAIL spacecraft on the Moon show the gas from the perspective of the LRO LAMP observations.

Neish C. D. Greenhagen B. T. Patterson G. W.
Cahill J. T. S. Bandfield J. L. et al. ***POSTER LOCATION #310***
Impact Melt Deposits at Tsiolkovskiy Crater: Constraints on Crater Age **[#1585]**
High rock abundance / Around Tsiolkovskiy Crater / Fresh impact melt flows?

Williams J.-P. Petro N. E. Greenhagen B. T. Neish C. ***POSTER LOCATION #311***
Inferred Age of Mare Fill in Tsiolkovskiy Crater: Constraints on the Preservation of Exterior Impact Melt Deposits **[#2756]**
Crater counts on the floor of Tsiolkovskiy crater suggest that the interior mare fill is between 3.12 and 3.41 Ga, younger than previous estimates.

Bussey D. B. J. Patterson G. W. Schulze R. Wahl D. E. Nolan M. et al. ***POSTER LOCATION #312***
Bistatic Radar Observations of the Moon Using the Arecibo Observatory & Mini-RF on LRO **[#2816]**
Using the Arecibo and Mini-RF radars we have produced the first lunar radar images with nonzero bistatic angles.

Aye K.-M. Paige D. A. Foote M. C. Greenhagen B. T. Siegler M. A. ***POSTER LOCATION #313***
The Coldest Place on the Moon **[#3016]**
Recalibration of the Diviner dataset will lead to an improved understanding of the uncertainties of radiometric measurements for the coldest place on the Moon.

Cahill J. T. S. Siegler M. A. Greenhagen B. T.
Bussey D. B. J. McGovern J. A. et al. ***POSTER LOCATION #314***
Characterization of Lunar Polar and Non-Polar Permanent Shadow Physical and Thermal Characteristics via Mini-RF and DIVINER **[#2590]**
Polar and nonpolar permanent shadows are characterized for thermal and radar scattering properties with varying latitude using LRO's Mini-RF and DIVINER data.

Calla O. P. N. Mathur S. Jangid M. ***POSTER LOCATION #315***
Study of Plato Crater with the Mini-RF **[#1854]**
Electrical properties of Plato Crater has been studied using S and X-band of Mini-RF and results are validated with Chang'e-1 and LRO's Diviner data.

Carter L. M. Hawke B. R. Garry W. B. Campbell B. A. Giguere T. A. et al. ***POSTER LOCATION #316***
Radar Observations of Lunar Hollow Terrain **[#2146]**
Radar detects pyroclastic deposits at some, but not all, of the enigmatic lunar hollows. Were volatiles important to their formation?

Paige D. A. Greenhagen B. T. ***POSTER LOCATION #317***
Diviner Lunar Radiometer Experiment Extended Mission Results: Thermal, Thermophysical and Compositional Properties **[#2492]**
Diviner extended mission results provide new constraints on lunar geology, geochemistry, and volatiles.

Patterson G. W. Cahill J. T. S. Bussey D. B. J. ***POSTER LOCATION #318***
Characterization of Lunar Crater Ejecta Deposits Using Radar Data from the Mini-RF Instrument on LRO **[#2380]**
Using the crater Byrgius A as an example, we demonstrate how radar data can be used to differentiate between materials within ejecta deposits.

Sefton-Nash E. Siegler M. A. Paige D. A. ***POSTER LOCATION #319***
Thermal Extremes in Permanently Shadowed Regions at the Lunar South Pole **[#2617]**
Thermal extremes at the lunar south pole and the implications for surface thermophysical properties in permanently shadowed regions.

Thomson B. J. Bussey D. B. J. Cahill J. T. S. El-Baz F. Neish C. D. et al. ***POSTER LOCATION #320***
Global Distribution of Radar-Bright Halos on the Moon Detected by LRO Mini-RF **[#2107]**
Radar bright halos / Smaller ones are lost quickly / While old guys linger.

Xiao Y. Fa W. Kobayashi T. ***POSTER LOCATION #321***
Thickness of Pyroclastic Deposits for Aestuum Region: Initial Results from Kaguya Lunar Radar Sounder **[#1341]**
In this abstract, thickness and subsurface dielectric constant in lunar pyroclastic deposits at Aestuum are estimated with a two-layer model using Kaguya LRS data.

Opanasenko N. Shkuratov Y. Kaydash V. Korokhin V. Velikodsky Y. et al. ***POSTER LOCATION #322***
Preliminary Mapping Negative Polarization of the Lunar Nearside **[#1354]**
The Moon reveals a complicated phase curve of linear polarization. We map and discuss the polarization degree near P_{min} of the lunar nearside.

Campbell B. A. Campbell D. B. Carter L. M.
Morgan G. A. Hawke B. R. et al. ***POSTER LOCATION #323***
Earth-Based Radar Data for the Moon at 12.6-cm and 70-cm Wavelengths: Mapping Update and Science Results **[#2291]**
We present an update and science results from Earth-based radar mapping of the Moon at 12.6-cm and 70-cm wavelengths using the Arecibo Obervatory and Green Bank Telescope.

Dhingra D. Wiseman S. Pieters C. M. ***POSTER LOCATION #324***
Non-Linear Mixing Analysis of Impact Melt on Copernicus Crater Floor Using Hapke's Radiative Transfer Model **[#2310]**
Hapke's radiative transfer model is used to quantitatively unmix and map mineralogically and/or texturally distinct impact melt units on the Copernicus crater floor.

Besse S. Staid M. Hiesinger H. ***POSTER LOCATION #325***
Spectroscopic Analysis of Flooded Craters from Oceanus Procellarum **[#1933]**
Spectral properties of flooded craters has been performed. Preliminary results show that few craters share the high-olivine content of Marius.

Staid M. Besse S. ***POSTER LOCATION #326***
Spectral and Stratigraphic Mapping of Lava Flows in Mare Imbrium **[#2661]**
The mineralogy of volcanic flows in Mare Imbrium is examined using spectral data from NASA's Moon Mineralogy Mapper and data from other recent lunar missions.

Indhu V. Srivastava N. Murty S. V. S. ***POSTER LOCATION #327***
Spectral Reflectance Studies of Selected Young Basalts on the Moon Using M^3 Datasets from Chandrayaan-1 **[#1185]**
L- 2 M^3 data have revealed that young basalts near Litchenberg crater may have slightly higher olivine content than the ones near Aristarchus crater.

Jawin E. R. Besse S. Mazrouei S. Gaddis L. R. Sunshine J. M. ***POSTER LOCATION #328***
Spectral Signatures of Lunar Pyroclastic Deposits in Moon Mineralogy Mapper (M^3) Data **[#1662]**
We use spectroscopic data from the Moon Mineralogy Mapper (M^3) to characterize the 1- and 2-µm absorption bands of pyroclastic deposits across the lunar nearside.

Shankar B. Osinski G. R. Antonenko I. ***POSTER LOCATION #329***
Multispectral Analyses of Kovalevskaya Crater on the Lunar Farside **[#2094]**
Kovalevskaya crater is a 113-km complex crater with an uplifted peak. This study summarizes the results of a multispectral study of associated impactite units.

Whitten J. L. Head J. W. Pieters C. M. Vaughan W. M. ***POSTER LOCATION #330***
Mafic Anomaly in Ptolemaeus Crater **[#2461]**
Ptolemaeus crater floor deposits appear anomalous compared to adjacent craters. A mafic anomaly has been found on the crater floor and its origin is investigated.

Ling Z. C. Zhang J. Liu J. Z. ***POSTER LOCATION #331***
Lunar Iron and Titanium Distributions for LQ-4 Region **[#2992]**
We have obtained new FeO and TiO_2 models by using the IIM data. Our FeO and TiO_2 algorithms show obvious improvements in comparisons with previous studies.

Yamamoto A. Furuta R. Ohtake M. Haruyama J. Matsunaga T. et al. ***POSTER LOCATION #332***
TiO_2, FeO, and Texture Analysis Map of Lunar Crater Ina, Based on SELENE Multi-Band Imager Data **[#1855]**
In this study, TiO_2, FeO, and texture map in/around lunar crater Ina are prepared from SELENE Multi-band Imager data.

Nakamura R. Yamamoto S. Ishihara Y. Yokota Y. Matsunaga T. ***POSTER LOCATION #333***
Differentiation of Impact-generated Magma Seas on the Moon as Revealed by Spectral Profiler Onboard Kaguya **[#1988]**
We summarize the highlights of the hyperspectral surveys by Kaguya and discuss the implications on the formation and evolution of lunar crust.

Yokota Y. Matsunaga T. Ohtake M. Haruyama J. Nakamura R. et al. ***POSTER LOCATION #334***
Vis-NIR Spectral Continuum Slope of Lunar High Latitude Regions Observed by SELENE Spectral Profiler **[#3025]**
Relationship between the low Vis-NIR spectral continuum slope area in the lunar high-latitude region and topography is investigated.

Ohtake M. Takeda H. Matsunaga T. Yokota Y. Haruyama J. et al. ***POSTER LOCATION #335***
Negative Correlation Between Primitive Farside Highland Materials and Mafic Silicate Abundance on the Moon **[#1850]**
The mafic silicate abundance to Mg# of the lunar farside are negatively correlated suggesting a continuous Mg-Fe differentiation mechanism.

Krüger T. van der Bogert C. H. Hiesinger H. ***POSTER LOCATION #336***
New High-Resolution Melt Distribution Map and Topographic Analysis of Tycho Crater **[#2152]**
We present a new topographical analysis and a high-resolution melt pool distribution map that both show strong evidence for an oblique impact from the southwest.

Pasckert J. H. Hiesinger H. van der Bogert C. H. ***POSTER LOCATION #337***
Small, Young Volcanic Deposits Around the Lunar Farside Craters Rosseland, Bolyai, and Roche **[#2024]**
We have dated several small mare deposits around the lunar farside craters Pauli and Rosseland, by performing crater size-frequency distribution measurements.

Gaddis L. R. Laura J. Hare T. M. Milazzo M. Garlant A. et al. ***POSTER LOCATION #338***
New Views of the Emplacement of the Orientale Annular Pyroclastic Deposit **[#2587]**
A simple ballistic model of the emplacement of pyroclasts on a topographic model of the lunar surface is applied to the Orientale annular deposit.

Gustafson J. O. Bell J. F. III Hawke B. R. Gaddis L. R. Giguere T. A. ***POSTER LOCATION #339***
Remote Sensing Investigations of Dark Mantle Deposits on the Southeastern Limb of the Moon **[#2723]**
We are investigating dark-mantle deposits on the southeast limb of the Moon. This region is characterized by a combination of effusive and pyroclastic deposits.

Hawke B. R. Giguere T. A. Gillis-Davis J. J.
Lucey P. G. Peterson C. A. et al. ***POSTER LOCATION #340***
An Investigation of Cryptomare and Pyroclastic Deposits in the Gassendi Region of the Moon **[#1894]**
LROC NAC and WAC images and other spacecraft data were used to investigate cryptomare and pyroclastic deposits in the Gassendi region of the Moon.

Lawrence S. J. Stopar J. D. Robinson M. S. Hawke B. R. Jolliff B. L. et al. ***POSTER LOCATION #341***
Mare Deposits in the Australe Region: Extent, Topography, and Stratigraphy **[#2671]**
LROC Wide Angle Camera data products are used to map the distribution and topography of the basalt deposits comprising Mare Australe.

Kramer G. Y. Jaiswal B. Hawke B. R. Giguere T. A. ***POSTER LOCATION #342***
The Basalts of Mare Frigoris **[#2947]**
We mapped the mare units at Mare Frigoris. For each unit we modeled the VIS-NIR spectrum representative of the pristine basalt.

Chandnani M. Kramer G. Y. Fessler B. Öhman T. Kring D. A. ***POSTER LOCATION #343***
Deep Crustal Lunar Lithologies Exposed in the South-Western Peak Ring of the Schrödinger Basin **[#1938]**
The created geological map shows the lithologic diversity of Schrödinger basin's peak ring. Two faults and a graben cut through it and offset the lithologies.

Vaughan W. M. Head J. W. ***POSTER LOCATION #344***
Modeling the South Pole-Aitken Basin Subsurface **[#2012]**
Modeled cumulate strata produced by impact melt differentiation in the South Pole-Aitken basin match central peak constraints.

Petro N. E. Jolliff B. L. ***POSTER LOCATION #345***
Thin Crust in the South Pole-Aitken Basin and Samples from the Mantle? Implications for South Pole-Aitken Basin Sampling in Light of Recent Grail Results **[#2724]**
GRAIL results suggest that the crust is thin inside SPA. Two basins in SPA are expected to excavate deep into the mantle. Implications for samples are discussed.

Nahm A. L. Velasco A. A. ***POSTER LOCATION #346***
Seismic Energy Release from Moonquakes on Small Lunar Lobate Scarps **[#1422]**
Lunar lobate scarps / Released lots of energy / Through many small quakes.

Nelson D. M. Watters T. R. Banks M. E. Robinson M. S. Williams N. R. et al. ***POSTER LOCATION #347***
Mapping Lobate Scarps on the Moon **[#2777]**
We are digitizing lobate scarps in a GIS to identify, age date, and understand the spatial distribution of these tectonic features, using LROC and LOLA data.

Garry W. B. Hawke B. R. Crites S. Giguere T. Lucey P. G. ***POSTER LOCATION #348***
Optical Maturity (OMAT) of Ina 'D-Caldera', the Moon **[#3058]**
An analysis of the optical maturity and reflectance properties of Ina.

Demidov N. E. Basilevsky A. T. ***POSTER LOCATION #349***
Rock Fragments Height/Diameter Ratio as Measured on the Lunokhod and Apollo Surface Panoramas **[#1859]**
Height to diameter ratios of rock fragments of the decimeter size have been measured on the Lunokhod 1 and 2 TV panoramas and the Apollo surface panoramas.

Wood C. A. Leon P. Gonzalez D. Zambelli M. Hentzel R. et al. ***POSTER LOCATION #350***
V is for Vents: Cloud-Sourcing the Discovery, Description, Dimensions and Distribution of Lunar V-Vents **[#1710]**
V-vents are small, tapered lunar vents with v-shaped cross-sections that erupted explosively to produce pyroclastic deposits.

Antonenko I. Robbins S. J. Gay P. L. Lehan C. Moore J. ***POSTER LOCATION #351***
Effects of Incidence Angle on Crater Detection and the Lunar Ioschron System: Preliminary Results from the CosmoQuest MoonMappers Citizen Science Project **[#2705]**
Solar incidence angle greatly affects the number of craters found on a surface, and we show this as a first study of a lunar mapping citizen science project.