Tuesday, March 8, 2011
POSTER SESSION I:
COMPOSITION AND STRUCTURE OF THE LUNAR CRUST: REMOTE SENSING
6:00 p.m. Town Center Exhibit Area

Robinson M. S. Denevi B. W. Sato H. Hapke B. Hawke B. R.
LROC WAC Ultraviolet Reflectance of the Moon **[#1842]**
Overview of ultraviolet to visible (320 nm to 689 nm) color differences on the Moon from LROC WAC multispectral imaging.

Denevi B. W. Robinson M. S. Sato H. McEwen A. S. Hapke B. W.
LROC WAC Ultraviolet Characterization of Lunar Space Weathering **[#2304]**
The effects of space weathering in the UV are examined using global WAC data. 321/415-nm ratios show increased maturity causes a decrease in UV slope, and a large fraction of the surface defined as immature based on OMAT is mature in this index.

Hapke B. Denevi B. Sato H. Robinson M.
The Opposition Effect of the Moon as Seen by the Lunar Reconnaissance Orbiter Wide Angle Camera **[#1080]**
We measured the lunar opposition effect between 320 and 690 nm. Both shadow hiding and coherent backscatter contribute. No dependence on wavelength was seen, contrary to theory. Our understanding of the coherent backscatter opposition effect is incomplete.

Sato H. Denevi B. W. Robinson M. S. Hapke B. W. McEwen A. S. LROC Science Operation Team
Photometric Normalization of LROC WAC Global Color Mosaic **[#1974]**
In order to find the best photometric normalization, we tested 1) seven fitting functions, 2) source image filtering, and 3) a new photometric normalization scheme called “tile-by-tile method”.

Besse S. Boardman J. Nettles J. Staid M. Sunshine J. M. Li J-Y. Yokota Y. Buratti B. Hicks M. Pieters C. M^3 Team
Deriving a Photometric Model for the Moon Mineralogy Mapper Data (M^3) **[#1773]**
We present results of the photometric model derived for the Moon Mineralogy Mapper (M^3) data using a Lambert component and the full set of M^3 data. The phase function is similar to previous studies, however, we notited a relatively flat phase function at large phase angles.

Grumpe A. Brinkmeier F. Wöhler C.
Analysis of Topographic Effects Observed in Spectral Features Extracted from Chandrayaan-1 M^3 Imagery **[#1484]**
In this abstract we present an approach to determine the effects of surface topography on spectral features. The presented regression algorithm indicates a strong correlation of anomalies in extracted spectral features and the corresponding terrain.

Thompson D. R. Gilmore M. Mandrake L. Castaño R. Bue B.
Automatic Detection of Water and Mafics in M^3 Radiance Images **[#2397]**
An automated search for spectral anomalies in Moon Mineralogy Mapper (M^3) radiance data detects water (OH/H_2O) and mafic absorption features in Ryder Crater. It corroborates the significance of the ~3 µm water signal in the scene’s spectral diversity.

Kramer G. Y. Kring D. A. Pieters C. M. Head J. W. III Isaacson P. J. Klima R. L. McCord T. B. Nettles J. W. Petro N. E.
Analysis of Schrodinger Basin Using Moon Mineralogy Mapper Spectra **[#1545]**
We present our first efforts to characterize Schroodinger's basin floor, peak ring, and basin rim materials using new spectral data from the Moon Mineralogy Mapper.

Moriarty D. P. III Pieters C. M. Nettles J. Isaacson P. J. Cheek L. Head J. W. Tompkins S. Petro N.
Finsen and Alder: A Compositional Study of Lunar Central Peak Craters in the South Pole-Aitken Basin **[#2564]**
We use Moon Mineralogy Mapper data to explore the mineralogy of Finsen and Alder, two central peak craters in the South Pole-Aitken Basin.

Yamamoto A.
Remote Sensing Data Analysis for the Menelaus Region of the Moon **[#1780]**
We use Kaguya Multiband Imager data for geologic analysis of the Menelaus region on the moon. Clustering classification method is used for analysis and distribution of interesting geologic features is shown in this report.

Bugiolacchi R. Mall U. Bhatt M.
NIR Spectral Investigation of the Delisle/Diophantus Crater Region by the SIR-2 Instrument **[#1843]**
The Delisle/Diphantus craters are located around Mare Imbrium's alleged submerged western outer rim. These similarly-aged impacts excavated materials with different spectral characteristics, suggesting chemically distinct targets.

Bhatt M. Mall U. Bugiolacchi R. Lehmann B.
Study of Spectral Characteristics of the Central Peak Region of Tycho Crater Using the SIR-2 Data On-Board Chandrayaan-1 **[#2390]**
We present the results of spectral characteristics of the central peak region of Tycho Crater using the SIR-2 data onboard Chandrayaan-1. The study goal is the systematical investigation of the observable variations of the bidirectional reflectance.

Whitten J. L. Head J. W. Pieters C. M. Mustard J. F. M^3 Team
Maunder and Kopff Craters: Windows into the Upper Lunar Crust **[#2168]**
Maunder and Kopff are larger craters that have impacted into Orientale Basin and excavated further into the lunar crust. Investigating their compositions using M^3 data can reveal important information about upper-crustal stratigraphy on the Moon.

Cahill J. T. S. Patterson G. W. Turtle E. P. Bussey D. B. J.
An Analysis of Orientale Basin: Integration of Mini-RF Radar and Optical Mapping Products **[#2134]**
An analysis of Orientale Basin using Mini-RF radar and optical mapping products.

Hagerty J. J. Lawrence D. J. Gillis-Davis J. J. Cahill J. T. S. Klima R.
Using Gamma-Ray, Neutron, and Spectral Reflectance Data to Obtain Accurate Measures of Global Lunar Iron Abundances **[#1950]**
Analyses of Lunar Prospector and Clementine global iron maps indicate there are significant differences between these data sets for specific portions of the lunar surface. Here we address possible reasons for these differences.

Crites S. T.   Englert P.   Riner M. A.   Lucey P. G.
New Estimates of the Global Distribution of Titanium, Rare Earths, Thorium/Samarium Ratio and Mg-Number from Integrating Lunar Prospector Neutron and Gamma Ray Spectrometer and Clementine Mineral Maps **[#1343]**
We produce refined Ti and Sm plus Gd distribution estimates from Lunar Prospector data by validating major-element distributions with fast neutron data, and using Clementine mineral maps to estimate distributions of elements not measured by LP GRS.

Yamashita N.   Gasnault O.   Forni O.   d'Uston C.   Chevrel S.   Reedy R. C.   Hasebe N.   Karouji Y.   Okudaira O.   Kobayashi S.   Hareyama M.   Kobayashi M.-N.   Shibamura E.   Kim K. J.
Prospects for Deriving Lunar Elemental Maps by Inelastic Scattering Gamma Rays **[#2093]**
Elemental distributions of Ca, Al, and Mg on the Moon were investigated using low-altitude Kaguya (SELENE) Gamma-Ray Spectrometer data with a focus on inelastic-scattering gamma rays.

Carter J. A.   Grande M.   C1XS Team
Factors Influencing Lunar Surface Analysis Using X-Ray Fluorescence Spectrography **[#1819]**
We describe investigations into factors affecting lunar surface analysis through XRF, including crater rays and atmospheric volatiles. These studies apply to all planetary XRF measurements, but are from the perspective of the C1XS instrument.