Thursday, March 16, 2006
POSTER SESSION II: LUNAR REMOTE SENSING
7:00 p.m. Fitness Center

Chevrel S. D. Pinet P. C. Jehl A. Besse S. Cord A. Daydou Y. Baratoux D. Kaydash V. G. Shkuratov Y.
Surface Physical Properties of the Lunar Regolith at Reiner Gamma: Characterization and Distribution Using Hapke Model Inversion **[#1173]**
Inversion of the Hapke model using Clementine multi-angular observations of the Reiner Gamma formation permits us to characterize and map physical properties of surface materials of lunar swirls.

Hawke B. R. Gaddis L. R. Blewett D. T. Boyce J. M. Campbell B. A. Giguere T. A. Gillis-Davis J. J. Lucey P. G. Peterson C. A. Robinson M. S. Smith G. A.
The Composition and Origin of Lunar Crater Rays: Implications for the Copernican-Eratosthenian Boundary **[#1133]**
Since compositional rays can persist for 3 Ga or more, the mere presence of bright rays is not a reliable indicator that a crater was formed during the Copernican Period. The OMAT parameter could be used to define the C-E boundary.

Hawke B. R. Giguere T. A. Blewett D. T. Gillis-Davis J. J. Hagerty J. J. Lawrence D. J. Lucey P. G. Peterson C. A. Smith G. A. Spudis P. D. Taylor G. J.
Ancient Volcanism in the Schiller-Schickard Region of the Moon **[#1516]**
Lunar Prospector elemental abundance data and Clementine multispectral images were used to identify and investigate a major cryptomare deposit in the Schiller-Schickard region near the southwestern limb of the Moon.

Thompson T. W. Campbell B. A. Ghent R. R. Hawke B. R. Leverington D. W.
Unusual Radar Backscatter Along the Northern Rim of Imbrium Basin **[#1140]**
The enigmatic low radar backscatter associated with the Montes Jura on the northern rim of the Imbrium basin is attributed to rock-poor distal ejecta of the Sinus Iridum and Plato impacts.

Clark P. E. Clark C. S. De Hon R. A.
Using Boundary-based Maps to Illustrate the Palimpsest Effect of Early Impacts on Lunar Surface Formation **[#1153]**
We apply CSNB approach to Moon mapping for insight on its surface morphology unavailable from standard maps. The Moon, typically mapped in an Earth-like projection but more asteroid-like in terms of surface modification, reveals impact palimpsests.

Isaacson P. J. Pieters C. M.
Variations Within the Northern Imbrium Noritic Deposits **[#1867]**
The NIN deposits have a heterogeneous noritic surface overlying an anorthositic substrate. Further variations of the NIN deposits were seen both with depth and with longitude, suggesting that multiple processes contributed to their evolution.

Petro N. E. Pieters C. M.
The Effects of Basin Formation on the Lunar Geochemical Terranes **[#1868]**
Investigation of the basin history of lunar geochemical terranes reveals added differences between the near and farside. The FHT and SPAT cover areas that received little post-SPA basin modification, while the PKT was significantly modified by basins.

Korokhin V. V. Shkuratov Yu. G. Stankevich D. G. Pieters C. Mall U.
Artificial Neural Networks as a Tool for Prognosis of Chemical and Mineral Composition of Lunar Soils from Spectral Measurements **[#1280]**
We compared two statistical techniques (Multiple Linear Regression and Artificial Neural Networks) for prognosis of lunar surface composition using the LSCC data. The results may be a useful for analysis of data obtained from SMART-1 and Chandrayaan missions.

Staid M. I.
Lunar Mineralogy from Spectral Merging of ROLO Telescopic Data with Clementine Images **[#1874]**
ROLO telescopic observations are mathematically combined with higher spatial, but lower spectral resolution Clementine images to obtain the average reflectance properties of small craters from several near side mare deposits.

Arai T. Ohtake M. Nimura T.
Visible/Near Infrared Spectral Characterization of Brecciated Mare Basalt Flow and Surface Mare Basalt **[#1895]**
The Fe-rich surface basalts and more Mg-rich brecciated basalts which likely represent the average compositions of basalt flow can be spectroscopically distinguished by the lateral shift of reflectance spectra and associated individual absorption bands to the shorter wavelength.

Mimura M. Kobayashi S. Tezuka C. Hosojima T. Yamashita N. Miyajima M. Miyachi T. Hasebe N.
New Approach to Planetary Surface Imager Based on Gamma-Ray High Pressure Xenon Time Projection Chamber **[#1563]**
New approach to planetary surface imager based on HPXe-TPC is proposed. By introducing a new method of gamma-ray measurement, the possibility of high resolution gamma-ray imager is discussed for a global mapping of planetary surface.

Lawrence S. J. Hawke B. R. Lawrence D. J. Gillis-Davis J. J. Lucey P. G. Taylor G. J. Cahill J.
Smith G. A. Hagerty J. Keil K.
The Composition and Origin of the Dewar Geochemical Anomaly: Final Results **[#1581]**
We report the final results of our remote sensing investigation of the thorium anomaly located near Dewar crater on the lunar farside. The elevated thorium values correlate with FeO and TiO_2 enhancements. Possible origin mechanisms are discussed.

Yamamoto H. Sakurai K. Miyachi T. Hasebe N.
Lunar Mare Volcanism Based on Chemical Composition of Titanium, Iron, Calcium and Magnesium as Observed by Lunar Prospector Gamma-Ray Spectrometer **[#1604]**
By using the data from Lunar Prospector gamma-ray spectrometer, good correlations of TiO_2 with FeO, CaO and MgO in five mare regions were found to exist, suggesting that the age and period are closely related to the composition.

Weller L. Redding B. Becker T. Gaddis L. Sucharski R. Soltesz D. Cook D. Archinal B.
Bennett A. McDaniel T.
Lunar Orbiter Revived: Very High Resolution Views of the Moon **[#2143]**
U.S. Geological Survey Astrogeology Program report on the progress of the Lunar Orbiter filmstrip scanning, archiving and processing efforts. We describe the status of the global mosaic and describe additional work on very high resolution data of the Moon's near side acquired at low altitude.

Kramer G. Y. Jolliff B. L. Neal C. R.
Searching for High-Al Mare Basalts: Mare Fecunditatis and Luna 16 **[#2227]**
Clementine and Lunar Prospector data are used to search for high-Al basaltic units in Mare Fecunditatis that may be related to the Luna 16 high-Al mare basalts.

Kaydash V. G. Pinet P. C. Baratoux D. Besse S. Jehl A. Chevrel S.
Lunar Photometry from Clementine Multiangular Data: Analysis of Hapke Parameters Estimate and Implication for Upcoming Smart-1 Spot-Pointing Data **[#1692]**
We explore how well constrained is the determination of photometric function parameters using: 1) the widely used Hapke photometric model and 2) extensive set of spot-pointing observations provided by Clementine over the Reiner-Gamma region.

Rosiek M. R. Archinal B. A. Kirk R. L. Becker T. L. Weller L. Redding B. Howington-Kraus E. Galuszka D.
Utilization of Digitized Apollo and Lunar Orbiter Imagery for Mapping the Moon **[#2171]**
This abstract presents the results of using modern "softcopy" digital mapping techniques for extracting digital elevation models (DEMs) from Lunar Orbiter (LO) and Apollo imagery.

Lawrence D. J. Elphic R. C. Feldman W. C. Hagerty J. J. Prettyman T. H.
Spatial Deconvolution Studies of Nearside Lunar Prospector Thorium Abundances **[#1915]**
We have carried out spatial deconvolution studies of Lunar Prospector thorium abundances. We show that these techniques can be useful in improving interpretations of low-spatial resolution datasets such as orbital gamma-ray data.