

Tuesday, March 16, 2004
LUNAR REMOTE SENSING: SEEING THE BIG PICTURE
8:30 a.m. Salon A

Chairs: P. D. Spudis
R. R. Ghent

- 8:30 a.m. Tompkins S. *
Approaches for Approximating Topography in High Resolution, Multispectral Data [#1605]
A spectral mixture analysis approach to removing shade and estimating topographic effects in Clementine UVVIS data is discussed.
- 8:45 a.m. Cahill J. T. * Lucey P. G. Gillis J. J. Steutel D.
Verification of Quality and Compatibility for the Newly Calibrated Clementine NIR Data Set [#1469]
The USGS, Flagstaff has released Clementine NIR data at near final calibration. Here we show a preliminary study to verify the quality of this data set and its compatibility with the Clementine UVVIS data set.
- 9:00 a.m. Steutel D. * Lucey P. G. Gillis J. J.
Near Infrared Spectral Properties of Selected Nearside and Farside Sites [#1481]
We use the newly available Clementine NIR global data set in conjunction with UVVIS data to examine and contrast the spectral properties of a variety of regions on the Moon.
- 9:15 a.m. Staid M. I. * Gaddis L. R. Isbell C. E.
Global Comparisons of Mare Volcanism from Clementine Near-Infrared Data [#1925]
Clementine ultraviolet-visible data have been merged with empirically calibrated data from the near-infrared camera in order to characterize the reflectance properties of the Moon's major mare deposits.
- 9:30 a.m. Gillis J. J. * Lucey P. G. Lawrence S. J.
Testing the Relation Between UVVIS Color and TiO₂ Composition in the Lunar Maria [#1840]
Using Clementine UVVIS and Lunar Prospector neutron spectrometer data we test the relation between color and TiO₂ composition for the maria and find that factors other than ilmenite abundance contribute to the correlation between these two parameters.
- 9:45 a.m. Wilcox B. B. * Lucey P. G. Gillis J. J.
Color Reflectance Trends in the Mare: Implications for Mapping Iron with Multispectral Images [#1799]
We present a new method for separating the spectral effects of iron and maturity in mare regions that enables mapping vertical stratigraphy through the detection of small-scale iron anomalies that differ as little as 0.5 wt% from their surroundings.
- 10:00 a.m. BREAK
- 10:15 a.m. Spudis P. D. * Jackson N. Baloga S. Bussey B. Glaze L.
The Composition of the Lunar Megaregolith: Some Initial Results from Global Mapping [#1512]
We are conducting an examination of the global composition of the lunar megaregolith. Initial results show distinct compositional provinces that presumably reflect those of the underlying crystalline basement.
- 10:30 a.m. Lucey P. G. * Gillis J. J. Steutel D.
Global Images of Mg-Number Derived from Clementine Data [#1717]
A global image of Mg-number is presented, derived from radiative transfer modeling of Clementine data. Mare units are generally lower in Mg-number than highlands, but the highlands show diverse values with units ranging from 50 to 95.

- 10:45 a.m. Hawke B. R. * Blewett D. T. Gillis J. J. Lucey P. G. Peterson C. A. Smith G. A. Bell J. F. III Campbell B. A. Gaddis L. R. Robinson M. S.
The Origin of Lunar Crater Rays [#1477]
Lunar rays are bright because of compositional contrast with the surrounding terrain, the presence of immature material, or some combination of the two. It was determined that the mere presence of rays is not a reliable indicator of crater age.
- 11:00 a.m. Ghent R. R. * Leverington D. W. Campbell B. A. Hawke B. R. Campbell D. B.
Properties of Lunar Crater Ejecta from New 70-cm Radar Observations [#1679]
Recent 70-cm radar observations are used to examine the properties of lunar impact crater ejecta. Preliminary work suggests that block size variations, not mineralogical differences, are likely responsible for characteristic low-radar-return haloes.
- 11:15 a.m. Warell J. * Sprague A. L. Emery J. Long A.
Moon: First Spectra from 0.7 to 5.5 μm [#1624]
We present spectra of the Moon in the 0.7–5.5 micrometer wavelength region, obtained with SpeX on the IRTF. Spectra of Mercury were also obtained with the same instrument configuration and telescope during the observing period. Mercury spectra are discussed in a companion abstract.
- 11:30 a.m. Bussey D. B. J. * Robinson M. S. Fristad K. Spudis P. D.
Permanent Sunlight at the Lunar North Pole [#1387]
A quantitative illumination map of the lunar north polar region has been produced from Clementine UVVIS data. This map identifies four areas which were constantly illuminated for an entire lunar day and may be permanently sunlit.
- 11:45 a.m. Foing B. H. * Racca G. D. Marini A. Grande M. Huovelin J. Josset J. L. Keller H. U. Nathues A. Heather D. Koschny D. Malkki A.
ESA's SMART-1 Mission to the Moon: Goals, Status and First Results [#1413]
SMART-1 has been launched on 27 Sept. 2003. We shall report at LPSC2004 on the commissioning and first results from the spacecraft and the instruments.