

Thursday, March 15, 2007
POSTER SESSION II: LUNAR REMOTE SENSING
6:30 p.m. Fitness Center

McClanahan T. P. Trombka J. I. Mitrofanov I. G. Sagdeev R. Z.

Application of Image Restoration (Jansson Van-Cittert) Planetary Remote Sensing Neutron Count Rate Maps [#2408]

This paper evaluates Jansson Van-Cittert's (JVC) image restoration transform for possible application to neutron maps for planetary remote sensing.

Prettyman T. H. Hagerty J. J. Elphic R. C. Feldman W. C. Finnegan T. E. Lawrence D. J.

McKinney G. W. Vaniman D. T.

Analysis of Low-Altitude Lunar Prospector Gamma Ray Spectra [#2214]

Results of the analysis of low-altitude gamma ray spectroscopy data acquired by Lunar Prospector are presented along with implications to lunar science.

Hagerty J. J. Lawrence D. J. Hawke B. R. Elphic R. C. Prettyman T. H. Feldman W. C.

Did a KREEP-like Component Exist on the Far Side of the Moon?: Insights from the Thorium Abundance Distribution in South Pole-Aitken Basin [#1697]

We use new data from forward modeling of the Th abundance distribution in South Pole-Aitken basin, as well as newly deconvolved Th data, to suggest that a KREEP-like component may have once existed on the far side of the Moon.

Srivastava N.

Geochemical Estimation of Iron and Titanium for Central Peaks of Lunar Craters [#2188]

Central peaks of 26 lunar craters have been observed for average FeO and TiO₂ concentration using Clementine UVVIS data. The results have shown a distinct correlation with lithological assemblage obtained earlier by Tompkins and Pieters (1999).

Staid M. I. Stone T. C.

Remote Sensing of Lunar Basalts Using ROLO Telescopic Data and Clementine Images [#1951]

The mineralogy of several nearside lunar maria are investigated using complementary spectral measurements from the USGS Robotic Lunar Observatory and the Clementine UVVIS and NIR cameras.

Yamamoto A. Arai T. Takeda H. Miyamoto M.

Spectroscopy of Nearside Highland in Relation to Apollo 16 Rock Samples [#1590]

We measured UV/VIS/NIR reflectance spectra of five anorthosite samples from Apollo 16 landing site, and examine the spectral result with their petrology and mineralogical compositions.

Giguere T. A. Hawke B. R. Blewett D. T. Campbell B. A. Gillis-Davis J. J. Lucey P. G. Peterson C. A.

Runyon C. Taylor G. J.

Cryptomare and Pyroclastic Deposits in the Gassendi Region of the Moon [#1132]

Clementine multispectral images and Lunar Prospector elemental abundance data were used to identify and investigate unusual cryptomare deposits in the interior of Gassendi crater and the highlands to the west.

Nicholas J. B. Purucker M. E. Sabaka T. J.

The Reiner Gamma Albedo Marking on Earth's Moon: Old or Young? [#1027]

A minimum magnetization necessary to explain the Reiner Gamma albedo feature was determined, and estimates made of spatial distribution of magnetization, depth of source and magnetization direction. The evidence suggests that the albedo feature arises from retarded ageing under a mini-magnetosphere.

Hawke B. R. Giguere T. A. Gaddis L. R. Campbell B. A. Blewett D. T. Boyce J. M. Gillis-Davis J. J. Lucey P. G. Peterson C. A. Robinson M. S. Smith G. A.

Remote Sensing Studies of Copernicus Rays: Implications for the Copernican-Eratosthenian Boundary [#1133]

The mere presence of bright rays is not a reliable indicator that a crater was formed during the Copernican Period because compositional rays can persist for 3 Ga or more. The optical maturity parameter should be used to define the C-E boundary.

Morota T. Haruyama J. Honda C. Yokota Y. Ohtake M. Matsunaga T.

Lunar Cratering Chronology: Statistical Fluctuation of Crater Production Frequency and Its Effect on Age Determination [#1750]

In this paper, we evaluate errors in age determination due to statistical fluctuation of crater production frequency by a simple numerical simulation.

Shevchenko V. V. Pinet P. C. Chevrel S. Daydou Y. Skobeleva T. P. Kvaratskhelia O. I. Rosemberg C.

The Avalanche Deposits in Lunar Crater Reiner [#1066]

Avalanching appears to be a major means of the current erosion on steep lunar slopes. The age of the observed lunar slope degradation is very young. However, the lunar triggering mechanism of the down slope movement of the material remains unclear.

Thompson T. W. Campbell B. A. Ghent R. R. Hawke B. R.

70-cm Radar Properties as a Guide to Mega-Regolith Differences Across the Moon's Southern Highlands [#1102]

Differences in the number of small (1–16 km diameter) craters with radar-bright ejecta is not uniform across the southeastern nearside lunar highlands indicating deep megaregoliths associated with the South Pole Aitken and Australe impact events.

Dhingra D.

Radial Mineralogical Trends in Fresh Impact Craters on Moon — Formation Processes & Significance [#1600]

Radial mineral trends in fresh lunar craters on floors of pre-existing craters as well as outside are reported. Similar radial patterns in different settings possibly need different explanations. Excavation of a crystallized melt sheet or pre-existing ejecta pile seems probable.

Carter L. M. Campbell B. A. Hawke B. R. Campbell D. B.

Radar Remote Sensing Studies of Lunar Pyroclastic Deposits [#1855]

We use ground-based radar observations to study the distribution and physical properties of lunar pyroclastic deposits. Our images have resolutions of 20–60 m/pixel and include Aristarchus, Taurus-Littrow, and the Apollo 17 landing site.

Byrne C. J.

Interior of the Near Side Megabasin of the Moon [#1248]

The proposed Near Side Megabasin explains the surface topography of the far side of the Moon, but the interior of the basin presents puzzling features. These features are described and possible origins are proposed.