

PRELIMINARY PROGRAM

Workshop on
**NEW VIEWS OF THE MOON: INTEGRATED REMOTELY SENSED,
GEOPHYSICAL, AND SAMPLE DATASETS**
September 18–20, 1998 Houston, Texas

Click on any title to view the abstract for that presentation.

Friday, September 18, 1998

7:30–8:30 a.m. Registration

INTRODUCTORY REMARKS

8:30 a.m. Brad Jolliff and Graham Ryder
Lunar Initiative, Workshop Purpose, Rules

INTEGRATED APPROACHES TO STUDIES OF THE LUNAR SURFACE AND INTERIOR

8:45 a.m. Pieters C. M.*
Constraints on Our View of the Moon I: Convergence of Scale and Context

9:15 a.m. Wieczorek M. A.* Phillips R. J.
Integrating Geophysics with Remotely Sensed Data and the Apollo Samples

9:30 a.m. Campbell B. A.* Campbell D. B. Thompson T. W. Hawke B. R.
Integrating Radar, Multispectral, and Landing Site Data for Analysis of the Lunar Surface

9:45 a.m. Discussion
Integration: Common Problems of Lunar Geoscience

10:15 a.m. BREAK

CLEMENTINE AND PROSPECTOR DATASETS

10:30 a.m. Lucey P. G.*
*Quantitative Mineralogic and Elemental Abundance from Spectroscopy of the Moon:
Status, Prospects, Limits, and a Plea*

11:00 a.m. Lawson S. L.* Jakosky B. M. Park H.-S. Mellon M. T.
The Clementine Long-Wave Infrared Dataset: Brightness Temperatures of the Lunar Surface

11:15 a.m. Discussion
Spectroscopy of the Lunar Surface/Clementine-specific Issues

11:45 a.m. LUNCH BREAK

1:15 p.m. Binder A.*
Prospector Update

*Denotes speaker

- 1:30 pm. Lawrence D. J.* Feldman W. C. Binder A. B. Maurice S. Barraclough B. L. Elphic R. C.
Early Results from the Lunar Prospector Gamma-Ray Spectrometer
- 1:45 p.m. Maurice S.* Feldman W. C. Barraclough B. L. Elphic R. C. Lawrence D. J. Binder A. B.
The Lunar Prospector Neutron Spectrometer Dataset
- 2:00 p.m. Elphic R. C.* Maurice S. Lawrence D. J. Feldman W. C. Barraclough B. L.
Binder A. B. Lucey P. G.
*Lunar Prospector Neutron Measurements Compared to Clementine Iron and
Titanium Abundances*
- 2:15 p.m. Guinness E. A.* Binder A. B.
Lunar Prospector Data Archives
- 2:30 p.m. Discussion
Lunar Prospector Datasets, Present and Future
- 3:00 p.m. BREAK
- LUNAR SURFACE CHARACTERIZATION, REGOLITH
COMPOSITION, SPACE WEATHERING,
AND ATMOSPHERE**
- 3:15 p.m. Taylor L. A.* Pieters C. McKay D. S.
*Reflectance Spectroscopy and Lunar Sample Science: Finally a Marriage After Far Too
Long an Engagement*
- 3:30 p.m. Basu A.* Riegsecker S. E.
Reliability of Calculating Average Soil Composition of Apollo Landing Sites
- 3:45 p.m. Korotev R. L.*
Compositional Variation in Lunar Regolith Samples: Lateral
- 4:00 p.m. Keller L. P.* Wentworth S. J. McKay D. S.
*Surface-Related Nanophase Iron Metal in Lunar Soils: Petrography and Space
Weathering Effects*
- 4:15 p.m. Pieters C. M.*
Constraints on Our View of the Moon II: Space Weathering
- 4:30 p.m. Potter D.
The Lunar Atmosphere
- 4:45 p.m. Hapke B. W.*
The Vapor Deposition Model of Space Weathering: A Strawman Paradigm for the Moon
- 5:00 p.m. Discussion
- 5:30–7:30 p.m. Poster Session, Demonstrations, and Reception

POSTER SESSION PRESENTATIONS

Coombs C. R. Meisburger J. L. Nettles J. W.

Another Look at Taurus Littrow: An Interactive Geographic Information System Database

Eliason E. McEwen A. Robinson M. Lucey P. Duxbury T. Malaret E. Pieters C. Becker T.
Isbell C. Lee E.

Multispectral Mapping of the Moon by Clementine

Hiesinger H.

The Lunar Source Disk: Old Lunar Datasets on a New CD-ROM

Namiki N. Hanada H. Kawano N. Heki K. Iwata T. Ogawa M. Takano T. RSAT/VRAD Mission Groups

Measurements of the Lunar Gravity Field Using a Relay Subsatellite

Neumann G. A. Lemoine F. G. Smith D. E. Zuber M. T.

Lunar Basins: New Evidence from Gravity for Impact-formed Mascons

Riegsecker S. E. Tieman A. K. Basu A.

Average Mineral Composition of Apollo Landing Site Soils

Shiraishi A. Haruyama J. Otake H. Ohtake M. Hirata N.

Conceptual Design of the Ground Data Processing System for the Lunar Imager/Spectrometer Onboard the SELENE Mission

Spudis P. D. Cook T. Robinson M. Bussey B. Fessler B.

Topography of the South Polar Region from Clementine Stereo Imaging

Wentworth S. J. Keller L. P. McKay D. S.

Effects of Space Weathering on Lunar Rocks: Scanning Electron Microscope Petrography

Saturday, September 19, 1998

LUNAR DIFFERENTIATION: MAGMA OCEAN, GEOCHRONOLOGY AND ISOTOPES, CRUST

8:30 a.m. Warren P. H.* Kallemeyn G. W.

Pristine Rocks, Remote Sensing, and the Lunar Magmasphere Hypothesis

8:45 a.m. Snyder G. A.* Taylor L. A.

Geochronologic and Isotopic Constraints on Thermal and Mechanical Models of Lunar Evolution

9:00 a.m. McCallum I. S.*

The Stratigraphy and Evolution of the Lunar Crust

9:15 a.m. Tompkins S.*

Composition and Structure of the Lunar Crust

9:30 a.m. Discussion

10:00 a.m. BREAK

**CRUSTAL EVOLUTION: BASIN MODIFICATION
AND IMPACT RECORD**

- 10:15 a.m. Wieczorek M. A.* Haskin L. A. Korotev R. L. Jolliff B. L. Phillips R. J.
The Imbrium and Serenitatis Basins: Impacts in an Anomalous Lunar Province
- 10:30 a.m. Haskin L. A.* Jolliff B. L.
On Estimating Provenances of Lunar Highland Materials
- 10:45 a.m. Jolliff B. L.* Haskin L. A.
*Integrated Studies of Impact-Basin Ejecta as Probes of the Lunar Crust:
Imbrium and Serenitatis*
- 11:00 a.m. Grier J. A.* McEwen A. Strom R.
*Use of a Geographic Information System Database of Bright Lunar Craters in Determining
Crater Chronologies*
- 11:15 a.m. Warren P. H.*
A Brief Review of the Scientific Importance of Lunar Meteorites
- 11:30 a.m. Discussion
- 12:00 noon LUNCH BREAK

**BASALTIC VOLCANISM: MARE STRATIGRAPHY, MARE BASALTS,
PYROCLASTIC DEPOSITS, EVOLUTION OF
BASALTIC VOLCANISM**

- 1:30 p.m. Head J. W. III*
*Lunar Mare Basalt Volcanism: Stratigraphy, Flux, and Implications for
Petrogenetic Evolution*
- 2:00 p.m. Neal C. R.*
*Mare Basalts as Mantle Probes: Dichotomies Between Remotely Gathered and
Sample Data?*
- 2:30 p.m. Discussion
Reconciling (Integrating) Remote Sensing and Sample Studies
- 3:00 p.m. BREAK
- 3:15 pm. Hiesinger H.* Jaumann R. Neukum G. Head J. W. III
Investigation of Lunar Mare Basalts: An Integrated Approach
- 3:30 p.m. Gillis J. J.* Spudis P. D.
*Differences Observed in Iron Content Between Crater Ejecta and Surrounding Mare Basalt
Surfaces: Implications for Sample Remote Sensing Integration*
- 3:45 p.m. Gaddis L. R.* Rosanova C. Hawke B. R. Coombs C. Robinson M. Sable J.
*Integrated Multispectral and Geophysical Datasets: A Global View of Lunar
Pyroclastic Deposits*

- 4:00 p.m. Hawke B. R.* Giguere T. A. Lucey P. G. Peterson C. A. Taylor G. J. Spudis P. D.
Multidisciplinary Studies of Ancient Mare Basalt Deposits
- 4:15 p.m. Discussion I
Lunar Basalts and Pyroclastic Deposits
- 4:45 p.m. Discussion II
Wrap-up of Crust, Mantle, and Thermal Evolution — How to Integrate Diverse Approaches and Where to Go from Here

Sunday, September 20, 1998

GLOBAL RESOURCES, SITE CHARACTERIZATIONS, FUTURE INVESTIGATIONS AND MISSIONS

- 8:30 a.m. Allen C. C.* Weitz C. M. McKay D. S.
Prospecting for Lunar Oxygen with Gamma-Ray Spectrometry and Multispectral Imaging
- 8:45 a.m. Feldman W. C.* Maurice S. Lawrence D. J. Barraclough B. L. Elphic R. C. Binder A. B.
Deposits of Hydrogen on the Moon
- 9:00 a.m. Cooper B. L.* Hoffman J. H. Allen C. C. McKay D. S.
Exploration of the Moon with Remote Sensing, Ground-penetrating Radar, and the Regolith Evolved Gas Analyzer (REGA)
- 9:15 a.m. Simpson R. A.*
Radar Search for Water Ice at the Lunar Poles
- 9:30 a.m. Taylor A. G.* Gibbs A.
Automated Search for Lunar Lava Tubes in the Clementine Dataset
- 9:45 a.m. Billings T. L.* Godshalk E.
Probing Lunar Lavatube Caves by Radar Illumination
- 10:00 a.m. Discussion
- 10:45 a.m. BREAK
- 11:00 a.m. Discussion/Wrap-up
Future Directions for the Lunar Initiative; Options for Publication of Workshop-related Papers; Theme Sessions; 30th LPSC; Flagstaff Workshop; “Capstone Publication”; and Issues of “Data Advocacy” and Future Integrated Efforts
- 12:00 noon ADJOURN

ABSTRACTS CONTRIBUTED FOR PRINT ONLY

Korotev R. L.

Compositional Variation in Lunar Regolith Samples: Vertical

Korotev R. L.

On the History and Origin of LKFM

Korotev R. L. Morris R. V.

On the Maturity of Lunar Regolith