

Thursday, March 26, 2009

POSTER SESSION II: MARTIAN STRATIGRAPHY: UNDERSTANDING THE GEOLOGIC HISTORY OF MARS THROUGH THE SEDIMENTARY ROCK RECORD

6:30 p.m. Town Center Exhibit Area

Garchar L. A. Calvin W. M.

[*Characterization of Outcrop Rock Targets in Meridiani Planum Using Pancam and Mini-TES Spectra*](#) [#1019]

We hope to gain insight into the compositional variability of outcrop rocks through analysis of concurrent Pancam and Mini-TES spectra. We have analyzed color and spectral data from Pancam and unmixed the Mini-TES using surface component end-members.

Fan C. Xie H. Schulze-Makuch D. Ackley S.

[*A Likely Formation Mechanism of the Hematite-rich Spherules in the Equatorial Region of Western Mars*](#) [#1470]

We argue that the hematite-rich spherules were originally formed in Valles Marineris and transported to Meridiani Planum accompanied with accretion of finer volcanic materials, abrasion of basaltic fragments and break down of the spherules during the wash-out flows.

D'Arcangelo S. Pondrelli M. Rossi A. P. Michael G.

[*Geological Characterization of the Layered Deposits of the Crommelin Crater \(Mars\)*](#) [#1601]

The layered deposits cropping out in the Crommelin crater have been analyzed and mapped and their origin has been hypothesized as related to possible spring processes.

Chuang F. C. Weitz C. M.

[*Characteristics and Regional Distribution of Intracrater Layered Deposits in Arabia Terra, Mars*](#) [#2057]

Using several datasets from the Mars Reconnaissance Orbiter mission, we are assessing the morphology and other characteristics of intracrater layered deposits with regard to their regional distribution in Arabia Terra.

Rossi A. P. Pondrelli M. Hauber E. Baliva A. Michael G. Ori G. G. Pompilio L. Parente M. Ivanov A. Neukum G.

[*Stratigraphic Architecture and Structural Control on Sediment Emplacement in Becquerel Crater \(Mars\)*](#) [#1588]

We investigate the link between structure and sedimentation on becquerel light-toned deposits and their relation with regional tectonic features in Arabia Terra.

Anderson R. B. Bell J. F. III Milliken R. E.

[*Geologic and Thermophysical Unit Mapping of the Proposed Mars Science Laboratory Landing Site and Traverse Path in Gale Crater*](#) [#2030]

We present a unit map of the proposed MSL landing site and traverse path in Gale crater, with descriptions and preliminary interpretations of key units on the crater floor and in the layered mound.

Sowe M. Roach L. H. Hauber E. Jaumann R. Mustard J. F. Neukum G.

[*Comparison of Interior Layered Deposits in Chaotic Terrains*](#) [#1938]

The characterization of ILDs using high-resolution image, elevation and spectral data demonstrated differences in terms of erosional shape, thickness, elevation, material competence and possibly mineralogy, but similarities in morphology.

Raitala J. Kostama V.-P.

[*Deformation of the Light Blocks on the Floor of Ius Chasma*](#) [#1574]

Layered blocks on the floor of Ius Chasma provide tectonics, cross-cuts and insights into the development, materials, layering, strata forming events and early geology on the tableland surrounding Ius.

Fueten F. Abdulla Y. Stesky R. MacKinnon P. Hauber E. Zegers T. Gwinner K.

[*Detailed Observation of an ILD Within Southern Coprates Chasma, Valles Marineris, Mars*](#) [#1324]

Attitudes of the lowest layers of an ILD on the southern edge of Coprates Canyon within Valles Marineris suggest deposition on local basement topography. This ILD postdates the formation of this part of Valles Marineris.

Wendt L. Gross C. McGuire P. C. Combe J.-P. Neukum G.

[*Analysis of Juventae Chasma Sulfate Mound B using the Multiple-Endmember Linear Spectral Unmixing Model \(MELSUM\) on CRISM Data*](#) [#1531]

MELSUM, is a novel, efficient method to analyze hyperspectral NIR data using a linear mixing model. It identifies monohydrated and polyhydrated iron and magnesium bearing sulfates as the spectral components of this outcrop.

Racher H. Slingerland M. Fueten F. Stesky R. MacKinnon P. Hauber E. Gwinner K. Zegers T.

[*Structural Analysis of an Interior Layered Deposit in Southern Coprates Chasma, Mars*](#) [#1472]

A triangular shaped ILD in Southern Coprates Chasma within Valles Marineris is interpreted as a rotated fault block. The rotation can be interpreted as a back rotation consistent with the opening of a rift valley.

Roach L. H. Mustard J. F. Murchie S. L. Bishop J. L. Ehlmann B. L. Lichtenberg K. Parente M.
CRISM Science Team

[*Sulfate and Hematite Stratigraphy in Capri Chasma, Valles Marineris*](#) [#1826]

We present sulfate and red hematite stratigraphy within the central Interior Layered Deposit of Capri Chasma, Valles Marineris, from spectral analysis of CRISM data.

Le Deit L. Bourgeois O. Mège D. Le Mouélic S. Massé M. Hauber E. Jaumann R. Bibring J.-P.

[*Geological History of a Light-toned Formation Draping the Plateaus in the Region of Valles Marineris, Mars*](#) [#1856]

We perform a geological analysis of layered deposits cropping out on the plateaus around Valles Marineris in order to determine their possible formation scenario and the role of water in their geological history.

Farrand W. H. Rice J. W. Jr. Glotch T. D.

[*Evidence of the Presence of Jarosite and Diagenetic Activity in the Mawrth Vallis Region*](#) [#2080]

CRISM and HiRISE data over the Mawrth Vallis region are examined and we find evidence for diagenetic activity and find a localized occurrence with a distinctive spectral signature which we identify as jarosite. Implications for the history of the region are discussed.

Crumpler L. Arvidson R. Blaney D. Cabrol N. deSouza P. Farrand W. Farmer J. Greeley R. Hurowitz J. Lewis K. McCoy T. McEwen A. McSween H. Ming D. Morris R. V. Rice J. W. Jr. Rice M. Ruff S. Schmidt M. Schröder C. Squyres S. Yen A. Yingst A.

[*Field Reconnaissance Geologic Mapping of the Columbia Hills, Gusev Crater from MER Spirit Rover and HiRISE Observations*](#) [#2045]

This study presents the results of the first field reconnaissance geologic mapping on another planetary surface. We show that geologic units on Mars are complex like their terrestrial counterparts, but can be mapped at human and rover scales of observation.

Gurgurewicz J.

[*Mineralogy of Noctis Labyrinthus on the Basis of OMEGA/MEX and PFS/MEX Data*](#) [#1576]

The OMEGA/MEX and PFS/MEX data have been used to study the diversification of the mineral composition of the Noctis Labyrinthus region, which is situated in the western end of the Valles Marineris canyon on Mars.

Quantin C. Flahaut J. Allemand P.

[*Buried Layers Beneath South Rim of Valles Marineris Revealed by Central Uplift of Impact Craters*](#) [#1651]

Our study of exhumed layers in central peak of impact craters revealed extended buried layers below the southern plateau of Valles Marineris. According to their origin elevation, these layers could be exposed in the deepest parts of Valles Marineris.