

Friday, March 14, 2008

MARS: THE ORBITAL VIEW OF SEDIMENTS AND AQUEOUS MINERALOGY

1:30 p.m. Crystal Ballroom A

Chairs: M. D. Kraft
J. L. Bishop

- 1:30 p.m. Lichtenberg K. A. * Arvidson R. E. Murchie S. L. Roach L. H. Andrews-Hanna J. C. Noe Dobrea E. Z. Mustard J. F.
Structural and Geologic Relationships Between Igneous Rocks and Their Alteration Products in Xanthe Terra, Mars [#1390]
Examination of CRISM data over Xanthe Terra reveals phyllosilicate, hydrated sulfate, and olivine- and pyroxene-rich occurrences. Investigating the stratigraphic and geologic contexts of these deposits can shed light on their formation and timing.
- 1:45 p.m. Bishop J. L. * McKeown N. K. Noe Dobrea E. Z. Ehlmann B. L. Michalski J. R. Milliken R. E. Poulet F. Mustard J. F. Swayze G. Murchie S. L. Bibring J.-P. CRISM Team
Phyllosilicate Diversity Observed by CRISM in Mawrth Vallis: Identification of Nontronite, Montmorillonite, Kaolinite, and Hydrated Silica [#2124]
CRISM observations reveal the diversity of phyllosilicates present in Mawrth Vallis and indicate a wider range of aqueous activity than previously realized. Layers of Al-phyllosilicates and opal are observed covering older nontronite deposits.
- 2:00 p.m. Chan M. A. * Okubo C. H. Ormö J. Komatsu G. HiRISE Team
A New Perspective on Candor Chasma: Land of Knobs [#1160]
HiRISE images reveal numerous positive relief knobs amidst layered deposits in West Candor Chasma. We document knob characteristics and present possible origins utilizing Earth analogs. The knobs may hold records of Mars past global water cycle.
- 2:15 p.m. Tirsch D. * Jaumann R. Poulet F. Matz K.-D. Bibring J.-P. Neukum G.
A Global View on the Mineralogical Composition of Dark Dunes on Mars [#1693]
The mineralogy of intra-crater dark material occurrence is analyzed by using OMEGA data and a set of specific spectral criteria. The global consideration should reveal if there are any correlations between dune surface consolidation and mineralogy.
- 2:30 p.m. Ehlmann B. L. * Mustard J. F. Bishop J. L. Swayze G. Roach L. H. Clark R. N. Milliken R. E. Poulet F. Murchie S. L. MRO CRISM Team
Distinct Provinces of Aqueous Alteration in the Western Isidis Region Identified with MRO-CRISM [#2326]
Extensive aqueous activity, including potential hydrothermal activity in impact craters, is indicated by zeolites, phyllosilicates, and hydrated Si-OH bearing phases detected by CRISM in Nili Fossae and the region west of the Isidis basin.
- 2:45 p.m. Popa C. * Esposito F. Colangeli L.
Becquerel Crater Deposit on Mars, a Case of Namakier Diapirism? [#1623]
Becquerel crater deposits are analysed for the possibility of namakier (sedimentary diapirism glacier). Evidence is presented to sustain this hypothesis.
- 3:00 p.m. Bridges J. C. * Kim J. R. Tragheim D. G. Muller J.-P. Balme M. R. Pullan D.
Sedimentary Rocks in Becquerel Crater: Origin as Polar Layered Deposits During High Obliquity [#1913]
Sedimentary deposits in Becquerel Crater have layering and structural features that suggest they formed in an analogous way to current Polar Layered Deposits. Deposition occurred during an epoch of high obliquity associated with equatorial glaciations.

- 3:15 p.m. Anderson R. B. * Bell J. F. III
OMEGA Regional Maps of Hydrated Minerals in Northern Meridiani Planum, Mars [#1060]
OMEGA mosaics of the Northern Meridiani region of Mars show widespread hydration in etched, high-thermal inertia terrain that cannot be attributed to clays or sulfates. Ferric oxides/oxyhydroxides may be responsible for this hydration.
- 3:30 p.m. Bandfield J. L. *
A Complex History of Martian Surface Mineralogy and Aqueous Processes [#1741]
The global aqueous history hypothesis of Bibring et al. (2006) requires a more detailed examination of its assumptions. In addition, any global hypothesis needs to incorporate the wealth of additional information from a variety of datasets.
- 3:45 p.m. Mustard J. F. * Murchie S. L. Ehlmann B. L. Milliken R. E. Bibring J.-P. Poulet F. Bishop J. L. Roach L. H. Seelos F. P. CRISM Science Team
Regional Geology and Stratigraphy of the Nili Fossae-Syrtis-Isidis Region: New Insights from CRISM and MRO Data [#1701]
CRISM data and other MRO instruments clearly document important regional mineralogy and stratigraphy related to the critical transition from the Noachian to the Hesperian.
- 4:00 p.m. Kraft M. D. * Michalski J. R. Sharp T. G. Rampe E. B.
An Aqueous Weathering Model for Middle and High Latitude Regions of Mars [#2539]
Mineralogical and geomorphological data from higher latitude regions of Mars are consistent with aqueous weathering occurring in ice-rich soils.
- 4:15 p.m. Tanaka K. L. * Rodriguez J. A. P. Skinner J. A. Jr. Fortezzo C. M. Kolb E. J.
Stratigraphic Diversity of the North Polar Layered Basal Deposits on Mars [#2212]
The north polar basal deposits on Mars are complex and include three distinct units. We describe them and their geologic relations and ages.
- 4:30 p.m. Perron J. T. * Huybers P.
Is There an Orbital Signal in the Polar Layered Deposits on Mars? [#1497]
Are the north polar layered deposits a record of quasi-periodic orbital variations, or does the stratigraphy reflect climate events that emerged from the coupled dynamics of Mars' surface and atmosphere?