

Thursday, March 22, 2018 [R633]
**POSTER SESSION II: MINERALOGY OF MARS FROM ORBITAL DATA II:
 WET OR DRY, HOT OR COLD, HABITABLE OR NOT?**
 6:00 p.m. Town Center Exhibit Area

- Putnam E. T. Fraeman A. A. Stack K. M. **POSTER LOCATION #505**
[Mineralogy of Martian Layered Deposits: A Global Study](#) [#2804]
 Minerals of Mars / Sedimentary story / Of an ancient world.
- Beck A. W. Murchie S. L. Viviano C. E. **POSTER LOCATION #506**
[CRISM Petrologic Mapping of Noachian Stratigraphy at Central Latitudes on Mars](#) [#2230]
 Here we present results from CRISM multispectral mapping from two large areas in Noachian highlands terrain.
- Sinha P. Horgan B. Seelos F. **POSTER LOCATION #507**
[The Mineralogy of Lithic Components Within the North Polar Layered Deposits](#) [#2743]
 Sites at north polar layered deposits covered with weathered glass and pyroxene could be targets for *in situ* geochronology.
- Pesar E. A. Karunatillake S. Susko D. A. Hood D. R. Rewerts G. et al. **POSTER LOCATION #508**
[Analyzing Semi-Circular Depressions in Northwestern Arabia Terra, Mars with Sedimentary Basins](#) [#2530]
 This abstract explores a sedimentary basin origin against an igneous origin for the Arabia Terra region on Mars using geochemistry and geomorphology.
- Kremer C. H. Bramble M. S. Mustard J. F. **POSTER LOCATION #509**
[Origin and Emplacement of the Circum-Isidis Olivine-Rich Unit](#) [#1545]
 Solemn cracked and old / blankets on hills and plains / ash from volcano?
- Mandon L. Quantin C. Thollot P. Lozac'h L. Mangold N. et al. **POSTER LOCATION #510**
[A Post-Impact Volcanism Scenario for the Formation of the Olivine-Rich Unit in the Region of Nili Fossae, Mars](#) [#1473]
 We propose that the olivine-rich terrains observed in the region of Nili Fossae, Mars formed due to impact-triggered volcanism, 3.8–3.9 Ga ago.
- Pan C. Edwards C. S. Rogers A. D. **POSTER LOCATION #511**
[Evaluating Flat-Crater Floor Fill Compositions: Insight into Filling Processes](#) [#2334]
 We investigate the compositional and morphological properties of craters with high thermal inertia floor, and constrain the filling processes of the crater floor materials.
- Robertson K. M. **POSTER LOCATION #512**
[Spectral and Mineralogical Diversity of the Polyhydrated Sulfate Class in Valles Marineris](#) [#1985]
 Radiative transfer models are applied to CRISM spectra of polyhydrated sulfate deposits across Valles Marineris to correlate spectral parameters and mineralogy.
- Buczowski D. L. Seelos K. D. Viviano C. Murchie S. Seelos F. et al. **POSTER LOCATION #513**
[Anomalous Phyllosilicate-Bearing Outcrop South of Coprates Chasma: A Study of Possible Emplacement Mechanisms](#) [#2000]
 We present evidence of a Fe/Mg-smectite bearing layer located stratigraphically above Al-phyllosilicates, suggesting that not just pedogenesis occurred.
- Arivazhagan S. Sivasankari T. **POSTER LOCATION #514**
[Morphological and Mineralogical Mapping of Ius Chasma of Valles Marineris Using MCC/MOM and CRISM/MRO Datasets](#) [#1063]
 Geomorphological and mineralogical studies of Ius Chasma of the valles Marineris of the martian surface feature has been studied by using MCC - MOM and CRISM - MRO data.

Amador E. S. Ehlmann B. L. Bandfield J. L. Thomas N. H. **POSTER LOCATION #515**
[*New Tools to Detect Carbonate-Bearing Surfaces on Mars and Possible Detections of Low Abundance Carbonate in Noachian Crusts*](#) [#2256]

Martian carbonates / Underlying reservoir? / Can PCA find?

Pan L. Ehlmann B. L. Asimow P. D. Hu J. Greenberger R. N. **POSTER LOCATION #516**
[*An Infrared Spectroscopy Study of Impact Shocked Carbonates and Implications for Mars*](#) [#1896]

Impact shock effects on the infrared properties of carbonates are analyzed using terrestrial samples, as well as shock recovery experiments on carbonate target.

Zhang X. Lin H. Mustard J. F. Tarnas J. D. **POSTER LOCATION #517**
[*Hydrated Silicates and Carbonates Mapping in Candidate Mars2020 Rover Landing Sites with Integration of Dynamic Aperture Target Transformation and Sparse Unmixing \(IDATTSU\)*](#) [#2088]

We mapped hydrated silicates and carbonates in Mars2020 rover landing sites.

Tarnas J. D. Lin H. Mustard J. F. Zhang X. **POSTER LOCATION #518**
[*Characterization of Serpentine and Carbonate in Mars 2020 Landing Site Candidates Using Integrated Dynamic Aperture Target Transformation and Sparse Unmixing \(IDATTSU\)*](#) [#2236]

A novel application of Factor Analysis Target Transformation is applied to CRISM data of Mars 2020 candidate landing sites to locate carbonate and serpentine.

Lin H. Tarnas J. D. Mustard J. F. Zhang X. Wu X. **POSTER LOCATION #519**
[*Dynamic Aperture Target Transformation \(DATT\): A Novel and Valuable Method for Mineral Detection on Mars*](#) [#1835]

We proposed a new method termed DATT to detect minerals on Mars. DATT shows great potential to get the accurate mineral distributions.

Zastrow A. M. Glotch T. D. **POSTER LOCATION #520**
[*Identification of Carbonate Deposits in Huygens Basin, Mars, Using Factor Analysis and Target Transformation Techniques*](#) [#2153]

Carbonate spectra / Seen by CRISM in Huygens / Through FATT?

Luna M. Gilmore M. Ortiz J. OConnell S. **POSTER LOCATION #521**
[*Multivariate Spectral Analysis of CRISM Data to Characterize the Composition of Mawrth Vallis*](#) [#1294]

This is a study on the utility of multivariate statistical techniques used to identify spectral signatures of minerals in the VNIR spectrum from CRISM data.

Rogers A. D. Phillips B. P. Osterloo M. M. **POSTER LOCATION #522**
[*Investigating the Geologic Context of Possible Sulfate/Silica-Bearing Materials in Sinus Meridiani/Northern Noachis Terra, Mars*](#) [#2645]

Infrared data sets show possible evidence for light-toned sulfate/silica-bearing materials in southern Sinus Meridiani.

Michalski J. R. Noe Dobrea E. Z. Niles P. B. Cuadros J. **POSTER LOCATION #523**
[*The Case for Hydrothermal Seafloor-Type Deposits in the Eridania Basin on Mars*](#) [#1757]

The Eridania Basin contained a vast, deep (>1 km) inland sea in the Noachian. The deep basin deposits are similar to hydrothermal seafloor deposits on Earth.

Danielsen J. M. Bishop J. L. **POSTER LOCATION #524**
[*Characterization of Jarosite-Bearing Outcrops at Mawrth Vallis*](#) [#1804]

Newly processed CRISM images of Mawrth Vallis were analyzed and characterized for jarosite-bearing outcrops, providing insight into regional formation.

Liu C. Q. Ling Z. C. Bi X. Y.

POSTER LOCATION #525

[Laboratory Spectroscopic Studies of Jarosite and Other Hydrated Mineral Mixtures Relevant to Mars](#) [#2011]

We mixed jarosite with alunite, gypsum and bassanite, and collected their VNIR spectra for understanding 'doublet' features on Mars.

Leask E. K. Ehlmann B. L. Murchie S. Seelos F.

POSTER LOCATION #526

[New Possible CRISM Artifact at 2.1 Micrometers and Implications for Orbital Mineral Detections](#) [#2840]

A new artifact is identified in Mars CRISM I/F data at 2.1 μm , which can affect single- and few-pixel mineral detections in this wavelength range.

Itoh Y. Parente M.

POSTER LOCATION #527

[A New Scene Dependent Atmospheric Transmission for Enhancement of CRISM Volcano Scan Correction](#) [#2337]

A new atmospheric compensation algorithm that learns the spatial and temporal variations of the atmosphere from the image itself is presented.

Seelos F. P. Murchie S. L.

POSTER LOCATION #528

[CRISM Mapping Data Empirical Radiometric Reconciliation for the Next-Generation Mars Global Multispectral Map](#) [#2325]

An empirical optimization approach to the correction of interobservation radiometric residuals in MRO/CRISM mapping data mosaics is presented.

Kamps O. M. Hewson R. D. van Ruitenbeek F. J. A. van der Meer F. D.

POSTER LOCATION #529

[Investigating Mars' Element Distribution with CRISM Summary Products](#) [#1861]

Comparing CRISM summary products with GRS element maps to get a better understanding of the process behind the element distribution.

Malakhov A. V. Mitrofanov I. G. Litvak M. L. Sanin A. B.

Nikiforov S. Y. et al.

POSTER LOCATION #530

[Neutron Detectors on Mars: From HEND Onboard Mars Odyssey to ADRONs Onboard ExoMars-2022. Major Results, First Data, and Unresolved Issues](#) [#2117]

Neutron instruments currently operating on Mars and in development are presented, along with their major results, existing issues, and prospective data.