

Thursday, March 21, 2013

[R727]

POSTER SESSION: ICE, GLACIERS, AND POLAR PROCESSES ON MARS**6:00 p.m. Town Center Exhibit Area**

Ivanov A. B. Frigeri A.

POSTER LOCATION #523[Geographic Information System \(GIS\) Database for MARSIS Data](#) [#1983]

This is a pilot project to create a GIS-enabled database of MARSIS data. We expect to showcase a prototype and collect community feedback on its features.

Hargitai H. I.

POSTER LOCATION #524[Live Monitoring of Development of Ice and Snow Features as Planetary Analogs on Lake Balaton](#) [#2162]

The development of features in ice and of snow bedforms on ice was monitored during the winter of 2011/2012 on Lake Balaton, Hungary.

Becerra P. Byrne S. Brown A. J.

POSTER LOCATION #525[Frost Halos on the South Polar Residual Cap of Mars](#) [#1284]

We present the analysis of observations of bright albedo features that appeared in 2007 around pits and scarps in the south polar residual cap of Mars.

Portyankina G. Pommerol A. Aye K.-M. Hansen C. Thomas N.

POSTER LOCATION #526[Spring Sublimation on Mars: Do Northern and Southern Hemispheres tell us the Same Story?](#) [#1776]

Similarities in spring activity that we observe in polar areas point to that processes related to the solid state greenhouse effect act in both hemispheres.

Hansen C. J. Byrne S. Bourke M. C. McEwen A. S. Pommerol A. et al.

POSTER LOCATION #527[HiRISE Images and Investigation of Northern Spring on Mars](#) [#1805]

Three northern martian springs have been studied using HiRISE, the imager on MRO, to investigate seasonal processes and interannual variability.

Russell P. S. Byrne S. Pathare A.

POSTER LOCATION #528[Geographic Variation and Seasonal Evolution of Steep North Polar Scarps on Mars](#) [#2940]

Systematic and quantitative characterization of NPLD scarps w/ slope $>30^\circ$ and track seasonal changes at two scarps.

Alam M. Selvans M. M. Campbell B. A. Watters T. R.

POSTER LOCATION #529[Identifying Concentrated Layering in the Basal Unit of Planum Boreum, Using SHARAD Data](#) [#3014]

We examine SHARAD radargrams for layers in the basal unit of Planum Boreum at Mars' north pole.

Sholes S. F. Chevrier V. F. Tullis J. A.

POSTER LOCATION #530[Object Based Image Analysis for Remote Sensing of Planetary Surfaces](#) [#1527]

Method validity of object-based image analysis with respect to the study of surface geomorphology of the martian south polar cap.

Mount C. Titus T. N.

POSTER LOCATION #531[Density Variations of Seasonal CO₂ at the Phoenix Landing Site, Mars](#) [#2535]

Density of seasonal CO₂ ice was analyzed at the Phoenix Landing Site in MY 29. We propose that the ice begins as snow, anneals into slab, and then fractures.

Byrne S. Russell P. Pathare A. V. Becerra P. Molaro J. et al.

POSTER LOCATION #532[Fracturing the Icy Polar Cliffs of Mars](#) [#1659]

Thermally induced stresses within ice are modeled and found to be a plausible explanation for the highly fractured appearance of steep martian polar cliffs.

Nerozzi S. Holt J. W. **POSTER LOCATION #533**
[Earliest Accumulation History of the North Polar Layered Deposits, Mars from SHARAD Radar-Facies Mapping](#) [#2460]

Detailed mapping of the lowermost NPLD with many SHARAD observations reveals two depositional retreats that may correlate with modeled NPLD growth.

Levy J. S. Fassett C. I. Head J. W. **POSTER LOCATION #534**
[Estimating the Volume of Non-Polar Ice on Mars: Geometric Constraints on Concentric Crater Fill Along the Martian Dichotomy Boundary](#) [#1013]

We present a new approach to constraining the volume of CCF deposits on Mars based on crater depth/diameter profile relationships and CTX image data.

Piatek J. L. Hardgrove C. J. Moersch J. E. **POSTER LOCATION #535**
[Ground-Based Thermal Analysis of a Terrestrial Rock Glacier as an Analog to Martian Lobate Debris Aprons](#) [#2936]

Cold at night, dawn breaks / Albedo, slope, rock — respond / Thermal inertia. Rock and ice flowed / Downhill once, sorting — still now / We imagine... Mars.

Goldsby D. L. Durham W. B. Pathare A. V. **POSTER LOCATION #536**
[Inter-Laboratory Investigations of the Effects of Particulates on flow of Fine-Grained Ice](#) [#2739]

Experiments at Brown and MIT show that small amounts of dust significantly affect ice rheology: Differences in lab results may elucidate governing mechanisms.

Weiss D. K. Head J. W. **POSTER LOCATION #537**
[Double-Layered Ejecta Craters \(DLE\) on Mars: Assessing a Glacial Substrate Model as a Factor in Their Origin](#) [#1183]

We explore a glacial substrate model for double-layered ejecta (DLE) crater formation, wherein an ice and snow layer is responsible for their characteristics.

Zent A. P. Sizemore H. G. Rempel A. W. **POSTER LOCATION #538**
[Character of Mg\(ClO₄\)₂ Brines Under Mars Regolith Conditions](#) [#3049]

The characteristics of perchlorate brines for in situ segregation and habitability are explored.

Lousada M. Bandeira L. Pina P. Vieira G. Benavente N. et al. **POSTER LOCATION #539**
[Quantitative Comparison of Terrestrial and Martian Polygonal Networks](#) [#2451]

A comparison of quantitative geometric and topological parameters that have been collected from examples of terrestrial and martian polygonal networks.

Bramson A. M. Byrne S. Mattson S. Plaut J. J. **POSTER LOCATION #540**
[Terraced Craters and Subsurface Ice in Arcadia Planitia, Mars](#) [#2905]

We map terraced craters in a region where SHARAD detects a subsurface reflection to constrain the depth of the interface and thus the composition of the layer.

Haltigin T. W. Dutilleul P. Pollard W. H. **POSTER LOCATION #541**
[Landform Scale Co-Evolution of Polygonal Terrain Networks and Scalloped Depressions, Utopia Planitia, Mars](#) [#2849]

We provide evidence that the development of two separate surface features are intrinsically linked, demonstrating that the landscape is a co-evolving system.

Landis M. E. Barlow N. G. **POSTER LOCATION #542**
[Impact Crater Analysis of Southcentral Arabia Terra and Implications for Volatiles](#) [#1293]

We are using crater morphologies to investigate the role of surficial and subsurface volatiles in the evolution of the ancient Arabia Terra region of Mars.