

Tuesday, March 24, 2009

POSTER SESSION I: MARS POLAR ATMOSPHERES AND CLIMATE MODELING

6:30 p.m. Town Center Exhibit Area

Furfaro R. Panfili P. Luciani A. Kargel J. S. Ganapol B. Palmero-Rodriguez A. Mostacci D.

[*Deterministic Neutron Transport Modeling for Planetary Applications*](#) [#1846]

This paper shows how to model thermal and epithermal neutron fluxes leaking out from Mars using a deterministic approach. The model has been validated on Mars data and tuned for fast and accurate prediction of subsurface water-ice.

Helbert J. Head J. W. Marchant D.

[*The Berlin Mars Near Surface Thermal Model \(BMST\) — Modeling the Formation and Evolution of Sublimation Lags on Mars*](#) [#1521]

Phoenix for the first time directly studied ice on Mars and the SHARAD instrument detected clear evidence for glacial deposits in the equatorial regions of Mars. We study with the BMST model if these deposits are the remnants of an earlier climate cycle.

McMenamin D. S. McGill G. E.

[*Thermal Anomalies Suggest that Ongoing Clathrate Dissociation in Icy Sediment Contributes to Martian Atmospheric Methane*](#) [#1848]

Thermal anomalies in eroding icy sediments indicate sites of ongoing methane clathrate dissociation that release atmospheric methane on Mars.

Brown A. J. Wolff M. J.

[*Atmospheric Modeling of the Martian Polar Regions: One Mars Year of CRISM EPF Observations of the South Pole*](#) [#1675]

We have used CRISM Emission Phase Function gimballed observations to investigate atmospheric dust/ice opacity and surface albedo in the south polar region for the first Mars year of MRO operations. This covers the MY28 “dust event” and cap recession.

Hayne P. Paige D. A.

[*Clouds in the Polar Night of Mars: Modeling and Observations with the Mars Climate Sounder*](#) [#1849]

We present evidence from the Mars Climate Sounder and radiative transfer modeling, that polar cold spots are caused by carbon dioxide clouds.

Pankine A. Tamppari L. Smith M.

[*Water Vapor over Martian North Polar Cap from MGS TES*](#) [#2145]

We present retrievals of water vapor abundances from MGS TES data over martian north polar cap during spring and summer.