

Tuesday, March 11, 2008
POSTER SESSION I: MARS: LAYERED, ICY, AND POLYGONAL
6:30 p.m. Fitness Center

Lucchitta B. K.

HiRISE Images of Layered Deposits in West Candor Chasma, Mars (I): Wall Rock Relations, Enigmatic Ridges, and Possible Dikes [#2169]

Light-toned layers on the trough floor are superposed on the walls, not exhumed. Wall-rock benches could be shorelines, suggesting former lakes. Dark ridges in Ceti Mensa, if altered dikes, would suggest a volcanic origin for this edifice.

Lucchitta B. K.

HiRISE Images of Layered Deposits in West Candor Chasma, Mars (II): Unconformities and Possible Gravity Tectonics [#2317]

Unconformities on top of the Ceti Mensa dome and a lobe on its north side could be due to gravity gliding. If formerly flat-lying lacustrine rocks were deformed into this dome, then the cause for the original free faces needs to be explained.

Boisson J. Heggy E. Clifford S. M. Frigeri A. Plaut J. J. Picardi G.

Exploring Athabasca Subsurface Geoelectrical Properties Using MARSIS Radar Data: Hypothesis on Volcanic or Fluvial Origin of the Local Morphology [#1819]

In this investigation, we explore the dielectric properties of the martian subsurface in the equatorial area of Athabasca Vallis in order to investigate whether they are consistent with the potential presence of ground ice in this area.

Orosei R. Cartacci M. Cicchetti A. Federico C. Flamini E. Frigeri A. Holt J. W. Marinangeli L.

Noschese R. Pettinelli E. Phillips R. J. Picardi G. Plaut J. J. Safaeinili A. Seu R.

Radar Subsurface Sounding Over the Putative Frozen Sea in Cerberus Palus, Mars [#1866]

The area of Cerberus Palus has been explored by the MARSIS and SHARAD orbiting radar sounders. Highly attenuating material, incompatible with the presence of ice, is seen over most of the area: The hypothesis of a frozen sea seems to be untenable.

Seshadri S. Anderson R. C. Schaap M. Baker V. Dohm J. M. Tuller M. Chin K. B. Buehler M.

Detecting Water/Ice in Planetary Regoliths Using Electrical Impedance Spectroscopy [#2550]

We will describe the science case and operating principles for an *in situ* instrument that uses EIS to measure the phase and abundance of water in undisturbed planetary regoliths.

Bourgeois O. Devismes D. Cevatoglu M.

The Rheology of Ice-Rock Mixtures Inferred from Analogue Models: Application to the Gravitational Flow of Martian Superficial Formations [#1260]

Analogue models show that the yield stress of ice-rock mixtures increases with rock concentration according to a power-law. Topographic profiles computed from this law suggest that martian lobate aprons are mostly composed of pure ice.

Helbert J. Head J. W. III Benkhoff J.

The Berlin Mars near Surface Thermal Model (BMST) — Surveying the Stability of Ground Water Ice in Selected Areas on Mars [#1909]

Building on our studies dedicated to selected sites on Mars we have started a systematic survey of potentially ice-rich deposits on Mars with the BMST.

Costard F. Forget F. Madeleine J. B. Soare R. J. Kargel J. S.

The Origin and Formation of Scalloped Terrain in Utopia Planitia: Insight from a General Circulation Model [#1274]

Here, we report on the formation of scalloped terrains by the sublimation of a water-ice rich dusty deposit. At high obliquity, the LMD/GCM predicts the formation of deposits of ice in Western Utopia where scalloped terrains are observed.

Seelos K. D. Buczkowski D. L.

Observation and Interpretation of Giant Polygons in Utopia Planitia, Mars [#1926]

New evaluation of giant polygons in Utopia reveal variation in morphology from north to south, which may imply differences in formational mechanism or environment.

Johnsson A. Delbratt E. Mustard J. F. Milliken R. E. Riess D. Hiesinger H. Olvmo M.

Small Scale Polygonal Patterns Along the Southern Water Ice Margin on Mars [#1753]

We investigate small scale polygonal patterns in Argyre and along the southern water ice margin on Mars to highlight the morphologic change due to the presence or absence of near surface ice. Work aims to resolve process and time of formation.

Pina P. Saraiva J. Antunes J. Bandeira L.

Automatic Recognition of Diverse Types of Polygons on Mars [#2091]

This work presents results of an automated methodology for polygonal terrain identification on Mars.

Pedersen G. B. M. Hauber E. Nørnberg P.

Galaxias Chaos, Mars: Characteristics from Topography, HRSC and THEMIS [#1805]

Galaxias Chaos, Mars, is a mosaic of mesas situated on the northern slope of Elysium rise. Characteristics from HRSC, THEMIS, and topography are described and models of chaos formation, with reference to Galaxias Chaos, are discussed.

McGowan E. M. McGill G. E.

Assessing the Distribution and Origin of Water-related Features in the Northern Lowlands of Mars; A Geographic Information System Approach [#1034]

We are using GIS to define the spatial distribution of water-related features and to find correlations among different types of water-related features in order to help understand the past distribution of water in the northern lowlands.