Thursday, March 20, 2003
POSTER SESSION II
7:00 p.m.   Fitness Center

Mars Geomorphology

Pitiss S. E.   Sharpton V. L.
Evidence for an Aeolian Concentration of Crystalline Hematite Deposits Observed Within
Sinus Meridiani **[#2038]**
Hematite-rich areas within Sinus Meridiani may not be the source areas of crystalline hematite but may be a
sink where hematite rich sediments collected or were concentrated through density sorting similar to placer
formation and then fossilized.

Kuzmin R. O.   Zabalueva E. V.
Polygonal Terrains on Mars: Preliminary Results of Global Mapping of Their Spatial Distribution **[#1912]**
The preliminary results of the global mapping of the polygonal terrains occurrence on Mars are presented.

Tuckwell G W.
Controls on the Formation of Polygonally Organised Structures **[#1588]**
Polygonal structures on Earth, Mars and Venus are discussed in the context of numerical models of fault
growth. Principal controlling factors on polygon size geometry are mechanical coupling to the underlying layer,
and layer thickness.

Berman D. C.   Hartmann W. K.   Crown D. A.
Debris Aprons, Channels, and Volcanoes in the Reull Vallis Region of Mars **[#1879]**
The region surrounding Reull Vallis to the east of Hellas Basin on Mars has a complex geologic history. In this
study, debris aprons, channels, and volcanoes in the region are studied using crater counts on MOC imagery.

Thibodeaux C. J.   Washington P. A.   De Hon R. A.
Grain-size Analysis of Maumee and Vedra Channel Sediments (Mars) Using Equilibrium Sediment
Transport Theory **[#1268]**
The hydraulic parameters of the two most equilibrated channel cross-sections of Maumee and Vedra indicate
that the maximum sediment concentrations were in the pebble to cobble size-range.

Mège D.   Gatineau D.
Valles Marineris Wallslopes: Evidence for Amazonian Variations in Wallrock Strength and
Oblique Crustal Fabric **[#1748]**
Slope angle analysis in Valles Marineris reveals (1) Amazonian changes of morphogenetic conditions,
(2) asymmetric sapping channel walls, probably due to oblique buried basement structures.

Collins G. S.   Melosh H. J.
Acoustic Fluidization and the Extraordinary Mobility of Sturzstroms **[#1930]**
We develop the acoustic fluidization model for the mechanics of sturzstroms (large dry rock avalanches) and
discuss the conditions under which this process may facilitate self-sustaining fluid-like flow of large rock
avalanches at low driving stresses.

Kreslavsky M. A.   Head J. W.
North-South Slope Asymmetries on Mars: Statistical Analysis of MOLA Data **[#1412]**
Statistical analysis of along-track slopes in the MOLA data set revealed localized areas of noticeable
north-south slope asymmetry, including two narrow latitude zones about 45º, where the equator-facing
slopes are steeper.

Russell P. S.   Head J. W. III   Hecht M. H.
   Volatile-rich Crater Interior Deposits on Mars: An Energy Balance Model of Modification **[#1249]**
   We test the hypothesis that asymmetries in morphology and location of volatile-rich deposits within craters
   result from asymmetries in local energy balance due mainly to spatial variability of solar insolation and
   radiative effects of crater walls.

Bulmer M. H.   Glaze L.   Shockey K. M.   Barnouin-Jha O. S.   Murphy W.
   Insights into the Emplacement of Rock Avalanches on Mars **[#1225]**
   This study used geomorphic, topographic and statistical analysis of the Chaos Jumbles rock avalanches.

Dickson J. L.   Head J. W.
   Large Hesperian Proglacial Lake in Schmidt Valley, Mars: Evidence for Marginal Pitted
   Sandar Deposits **[#1185]**
   We provide evidence that the depressions and valleys found in the plain that separates Cavi Angusti from
   Schmidt Valley at the South Pole of Mars are indicative of a glacier/lake contact environment, yielding a
   marginal pitted sandur.

Zuromski K. K.   Jager K. M.
   Analysis of the Sub-surface of Alba Patera, Mars Using Pit Craters **[#1064]**
   Using MOC images, we analyzed the subsurface layers exposed in pit craters on Alba Patera, Mars. We
   measured the thicknesses of the layers, determined whether or not the layers are continuous, and explored their
   mode of formation.