Groundwater Depth, Cryosphere Thickness, and Crustal Heat Flux in the Epoch of Ravi Vallis, Mars

We propose a method to estimate the cryosphere and groundwater depth via analysis of chaotes that formed in outflow channels. We derive a range of 700 to 1000 m for Iamuna Chaos in Ravi Vallis, and estimate the local Hesperian crustal heat flux was 30 to 50 mW m$^2$.

Geomorphologic Map of the Atlantis Basin, Terra Sirenum, Mars

Here is shown the first geomorphologic cartography of the Atlantis basin region and the brief description of the mapped units.

Seasonal Redistribution of Water in the Surficial Martian Regolith: Results of the HEND Data Analysis

We report results of the global mapping of the neutrons albedo on Mars and show the evidences for seasonal redistribution of the water in the surface regolith, based on HEND data.

Wind-related Erosion Depressions Within a Small Impact Craters in Chryse and Elysium Planitiae on Mars

We report results of morphological and statistical analysis of the blowout hollows within a small impact craters in Chryse and Elysium Planitiae.

Landslides and the Tectonic Scarp in Coprates Chasma — Examples Studied from HRSC Data

Eastern Valles Marineris landslides revisited with HRSC data.

Mapping Compositional Diversity on Mars: Spatial Distribution and Geological Implications

The Spectral Variance Index (SVI) identifies, from statistical analysis of MGS-TES data, regions of large surface materials diversity. We present a global SVI map and discuss its significance by comparison to landers data and to other global maps.

The Geology of the Viking 2 Lander Site Revisited

Crater densities near the Viking 2 Lander indicate an extreme loss of small craters, consistent with a recently active, deflated eolian mantle. This mantle was emplaced before the Late Hesperian’s end, indicating a long dominance of eolian activity.

A Reevaluation of Mass Movements Within the Valles Marineris Region of Mars Using MOLA and MOC Data

Our research indicates that forces initiating Martian slumps may be higher in potential energy than those initiating Martian landslides. Our comparison of Martian slides to submarine landslides suggests that fluid or acoustic fluidization may be driving long runouts on Mars.
Vid’machenko A. P.  Morozhenko A. V.
*Mapping of the Physical Characteristics and Mineral Composition of a Superficial Layer of the Moon or Mars and Ultra-Violet Polarimetry from the Orbital Station [#1015]*
We suggest using observational data on measurements of UV light’s degree of linear polarization at phase angles in limits from 80 up to 120 degrees, that is, in those limits in which values of Brewster’s angles are practical for all ground materials.

Zeltsman A.
*Measuring the Surfaces on Mars [#1502]*
Some images from Mars Rovers contain apparently flat surfaces. We measure how flat they actually are. The digital experiments are used to answer the question what would happen to offset value, if the point set observed was in slightly different position.