



Slope histogram distribution-based parametrisation of Martian geomorphic features

Zita Balint (1), Balázs Székely (1,2), and Gábor Kovács (1)

(1) Department of Geophysics and Space Science, Eötvös University, Budapest, Hungary (zitag4@gmail.com), (2) Interdisziplinäres Ökologisches Zentrum, TU Bergakademie Freiberg, Germany (balazs.szekely@ioez.tu-freiberg.de)

The application of geomorphometric methods on the large Martian digital topographic datasets paves the way to analyse the Martian areomorphic processes in more detail.

One of the numerous methods is the analysis is to analyse local slope distributions. To this implementation a visualization program code was developed that allows to calculate the local slope histograms and to compare them based on Kolmogorov distance criterion.

As input data we used the digital elevation models (DTMs) derived from HRSC high-resolution stereo camera image from various Martian regions. The Kolmogorov-criterion based discrimination produces classes of slope histograms that displayed using coloration obtaining an image map. In this image map the distribution can be visualized by their different colours representing the various classes.

Our goal is to create a local slope histogram based classification for large Martian areas in order to obtain information about general morphological characteristics of the region.

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