

## **Comparison of Channels on Moon and Mars**

*Akos Kereszturi, Eötvös Loránd University of Sciences, Department of Physical Geography, graduate student, Hungary*

**Abstract:** There are several morphological similarities between some lunar rilles and some martian channels. In this article above all the Schröter- and Shalbatana-valley's morphology, deposition and erosion characteristics are compared. The reason for this is that both of them start from a circular depression (lava source/chaotic terrain) with full width, they are somewhat sinuosing, both flowed beneath some kind of crust (solidified lava/ice) with several flow episodes and both disappears on low slope terrain. In spite the great difference in their origin there are similarity in the valleys' morphology. The bimodal topography on both planetary bodies consists a sedimentary infilled smooth bottom level below the surrounding nearly flat terrain. There are connections between the discharge and the valley width, the sinuosity and the size of the meanders, but not as evident as on Earth. In both valleys there are signs for the variability of discharge and formation of terrace-like structures. The nearly lack of depositional features at the distal ends of the valleys may suggest somewhat similar depositing processes. On both planetary bodies are several channels starting from a depression around the surveyed region. The analysis is now extending to more valleys around Aristarcus on Moon and Chryse on Mars which suggest differences in the degree of infill in the highly meandering channels and rills. The comparison may show similar processes working on the shaping of channels on planetary surfaces under different conditions.