



Young basaltic deposits in impact craters at the south-eastern extension of Syrtis Major, Mars: preliminary report

Marlene Bamberg (1,2), Ralf Jaumann (2,3), Hartmut Asche (1), Andrea Nass (1,2), and Daniela Tirsch (2)

(1) University of Potsdam, Faculty of Mathematics and Natural Sciences, Institute for Geography, Division Geoinformatic, Potsdam, Germany, (2) German Aerospace Center (DLR), Germany (marlene.bamberg@dlr.de), (3) Freie Universität Berlin, Department of Earth Sciences, Institute of Geological Sciences, Division Planetary Sciences and Remote Sensing, Berlin, Germany

High Resolution Stereo Camera (HRSC) and Context Camera (CTX) images revealed that the south-eastern region of Syrtis Major displays various fluvial and volcanic surface features. The morphologic evidence includes lava flows, interior channels, erosion deposits, lava flow fronts and diverse types of craters.

Two different crater types can be identified around the south-eastern edge of Syrtis Major: eroded and re-filled craters. Erosion processes shaped the crater floors by wind and fluvial activity generating highly weathered craters. By contrast relatively young lava sheets are exposed in the south-eastern region of Syrtis Major. These basaltic deposits predominately cover the floor of larger impact craters. The craters are filled with young basaltic layers of different age. The work presented here shows the distribution and age of young Syrtis Major lava deposits and their correlation to an eroded environment. By using the crater-size frequency distribution (CSFD) the planetary surface can be dated. The source of the relatively young basalt layer is still questionable but seems to indicate late volcanic activities in this region.