JAGIELLONIAN UNIVERSITY IN KRAKÓW

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Spatial analysis and cartographic visualization of latitude-dependent mantle thickness in the area of impact craters of Utopia Planitia

Piotr Król
University of Warsaw

[POSTER]

The latitude-dependent mantle is a thick layer covering the surface of Mars in both hemispheres between 30 and 60 latitudes, thought to be composed of water ice and dust, formed by means of airfall deposition and surface accumulation. It contains frozen water, which is a crucial factor in learning more about Mars. This project focuses on developing a possible method of estimating and visualizing the thickness of LDM. The method bases on a correlation between impact crater diameter and depth, which allows comparing pairs of craters of similar diameters across Utopia Planitia. Data used in this study comes from MOLA (Mars Orbiter Laser Altimeter) and CTX (The Context Camera), and it is processed using JMars software. Once the database is completed, it will be used in ArcMap to create and visualize a map of estimated LDM thickness. The presentation is based on the ongoing master's project at the Faculty of Geography and Regional Studies, University of Warsaw.