

Re-estimation of the lithospheric thickness of the volcanic areas on Mars

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We re-estimated the potential range of the lithospheric thickness of Mars by reconsidering the possible variety of the crustal density. We used the gravity data from MRO (Mars Reconnaissance Orbiter): jgmro_110b2_anom_095.img, and topographic data from MOLA (Mars Orbiter Laser Altimeter / Mars Global Surveyor): megt90n000cb.img. Both data are provided as grided-data with spatial the resolution of 0,25-1 degrees. The density of the crust was assumed to vary from 2700 to 3100 kg/ m³. In this study, we focus on the lithospheric thickness of the volcanic areas on Mars to compare with the previous studies such as McKenzie et al. [2002].

Keywords: lithosphere, crust, Mars, admittance, gravity, topography