

## Process of magma eruption on the Moon

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Estimates for volumes of mare basalts are essential to understand the thermal conditions of the lunar mantle and its lateral heterogeneity. We have investigated the volumes of mare basalts within farside and nearside basins using topographic and multiband image data obtained by SELENE (Kaguya). Furthermore, using the high-resolution crustal thickness model, we investigated the crustal thickness of major impact basins and its relationship with the mare volumes. Based on these results, we discuss the relationship between the mare volumes and the crustal thickness, differences between magma productions in the farside and nearside mantles, and the processes of magma ascent and eruption.

Keywords: Moon, Mare volcanism, Impact basin, Dichotomy, Magma eruption