

Possibility of Lunar global cooling and contraction after 2.8 Ga

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Subsurface geology of the Serenitatis basin of the Moon was investigated by the Lunar Radar Sounder (LRS) onboard the Kaguya spacecraft. LRS data demonstrated that the popular model on the tectonics and lithospheric cooling of the basin being unlikely for the case of Serenitatis, though the basin was thought to be the typical region where observations were explained by the model. These observations suggest that mascon loading did not produce the tectonics in Serenitatis after 3.55 Ga. Global cooling probably dominated the tectonics after 2.84 Ga [1].

Here we will discuss the possibility of the global cooling and contraction after 2.8 Ga using numerical model for Lunar thermal history.

References:

[1] Ono et al., Science 323, pp. 909-912, 2009.