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The effects of magmatic redistribution of heat producing elements on the lunar mantle evolution inferred from numerical models that start from various initial states

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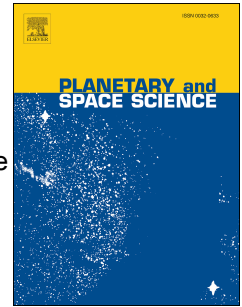
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19 **Highlights**

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The lunar magmatism and mantle convection are numerically modeled.

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Magmatism extracts heat-producing elements (HPEs) from the convecting mantle.

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The HPE-extraction expedites decline of magmatism and mantle convection.

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Localized magmatism persistently occurs only when the deep mantle is initially cold.

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The calculated thermal history suggests early heating up of the lunar mantle.

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