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## From Earth's Building Blocks to Metallic Planetary Cores

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The largest differentiation event in Earth and the other terrestrial planets was the process of early metal core segregation from a silicate mantle.

As movement of molten metal generates a magnetic field that helps life on Earth to survive cosmic radiation, the study of core formation contributes to our understanding of the context for the origin of life on Earth and possibly elsewhere in the Solar System.

The authress performed small-scale, high pressure (HP), high temperature (HT) experiments to simulate metal-rock segregation in the laboratory. Her research aimed to quantify how the isotopic composition of the common element silicon varies in co-existing metal and rock during metal segregation. Her main result is that the difference in silicon isotopic composition between metal and rock diminishes as pressure is increased. The results of this work can be combined with silicon isotopic measurements of terrestrial and planetary rocks to better constrain the processes and conditions during core formation in planets.

Josepha Kempl

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