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**Preliminary results on stable Ru isotope  
fractionation experiments between liquid metal  
and liquid silicate**

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The abundances of highly siderophile elements (e.g. Ru) in Earth's mantle are assumed to predominantly derive from late accretion of broadly chondritic material. Yet, the behavior of some elements leaves questions open about the late veneer and Earth's core formation.

Remaining in the mantle after core formation the highly siderophile element Ru should show strong mass-dependent isotope fractionation and a different isotopic signature compared to chondrites. In case this element largely derives from the late veneer, it should show no isotope fractionation attributable to core formation.

To test these assumptions, we performed metal-silicate partitioning experiments in a 1 atm centrifuge at 2000 r/min and in a piston cylinder press (1 GPa) at temperatures between 1200 °C and 1450 °C. With these experiments we can determine the partitioning of Ru, as well as potential stable isotopes at different temperatures and pressures. We will present first results, the influence of S on the experimental system and implications of our centrifuge and piston cylinder runs.

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