

# Telling the time of Earth's core formation

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Australian and Swiss scientists say they may have solved a mystery concerning conflicting formation times for the Earth's core.

Although two isotope clocks seem to give conflicting formation times, Bernard Wood of Australia's Macquarie University and Alex Halliday of the Swiss Federal Institute of Technology say the problem can be resolved by considering the effect of the impact of a Mars-sized object with the Earth.

Such an impact is believed to have contributed the last 10 percent of the Earth's mass and formed the moon. Wood and Halliday propose that would have also changed the conditions of core formation.

Writing in this week's issue of the journal *Nature*, they say the discrepancy between the hafnium-tungsten and uranium-lead isotope clocks can be eliminated if the effects of the oxidation state of the mantle are taken into account.

They suggest the hafnium-tungsten clock represents the initial phase of core formation, whereas the upheaval caused by the impact in effect reset the uranium-lead clock to a younger age.

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