

Secondary Ion Mass Spectrometry (SHRIMP) U-Pb dating of Chelyabinsk meteorite

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On February 15, 2013, a meteorite fell into the area of Chelyabinsk in Russia. The petrographic and chemical analysis of the Chelyabinsk meteorite unambiguously classifies it as an LL5 ordinary chondrite (Galimov et al. 2013). The reported Sm-Nd age of 3.7 Ga and Rb-Sr age of 0.29 Ga suggest that the Chelyabinsk meteorites could have suffered from the secondary event possibly due to shock metamorphism. For further understanding of the thermal history of Chelyabinsk meteorite, we carried out an in-situ U-Pb dating of phosphates of which closure temperatures is high (~600 °C), using Hiroshima-SHRIMP (Sensitive High-Resolution Ion MicroProbe).

Keywords: Chelyabinsk meteorite, SHRIMP, phosphate, U-Pb dating