

The Al-Mg isotopic compositions of chondrules from Allende(CV3)

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The Al-Mg isotopic compositions of four Allende chondrules were analyzed using SIMS for the purpose of evaluating of the chondrule formation time. Plagioclases and the mesostasis in two chondrules showed detectable ^{26}Mg excesses corresponding to initial $^{26}\text{Al}/^{27}\text{Al}$ ratios $<1 \times 10^{-5}$. Nephelines formed by the secondary alteration in a plagioclase-rich chondrule showed no ^{26}Mg excess. The Al-Mg isotopic compositions of minerals in these chondrules suggest that Allende chondrules may have formed 2-3 million years after CAI formed, and the secondary alteration processes may have occurred a few million years later still.

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