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研究題目 Allende 隕石中の Ca-Al インクルージョンの岩石学的研究

A petrological study of a Ca-Al Inclusion, Allende meteorites

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**A petrological study of a Ca-Al Inclusion, one of the most primitive solids in the solar system.**

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We attempted to look for the evidence of crystallization of Ca-Al rich inclusion (CAI) from melt droplet. The inclusion ALTL019 was selected and we used the Electron Probe Micro Analyzer (EPMA) for quantitative analyses on melilite, which was one of the major mineral phases in the CAI, for which tests using compositional gradients in the radial direction for solidification from liquid instead of gas have been proposed (MacPherson et al. 1981). According to these results, we concluded that zoning patterns indeed existed in melilite grains and some of which tentatively suggest a liquid origin for CAIs. However, Allende have suffered severe alteration and these alteration products confused the original zoning pattern in melilites. Also, the small size of melilite grains in ALTL019 lead to small difference in composition that was harder to ascertain. Furthermore, there were still some ambiguities on the exact original location of the fragment that we studied in ALTL019, so that even the radial direction was still somewhat uncertain. Because of these difficulties, the suspected liquid origin of ALTL019 is not yet completely definitive.

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