

エンスタタイト凝縮実験に向けた装置改良とSiO₂-MgO蒸発実験

Development of experimental setups for condensation experiments of enstatite and evaporation experiments of SiO₂-MgO

*瀧川 晶^{1,2}

*Aki Takigawa^{1,2}

1.京都大学大学院理学研究科地球惑星科学専攻地質学鉱物学教室、2.京都大学白眉センター

1.Division of Earth and Planetary Sciences, Kyoto University, 2.The Hakubi Center for Advanced Research, Kyoto University

Enstatite whiskers elongated to the [001] axis were identified in chondritic porous interplanetary dust particles (CP-IDPs), Antarctica Micrometeorite (AMM), and samples from a comet Wild 2, while those elongated to the [100] axis are common in minerals occurred in the Earth and meteorites [1-4]. The condensation conditions of enstatite whiskers, however, have not been shown quantitatively. Moreover, the difference in the morphology of enstatite whiskers may reflect their different condensation conditions in the early solar system. In order to constrain on the formation conditions of enstatite whiskers with different crystal habits, we aim to construct the experimental setup that can control the condensation temperature, supersaturation ratio, and partial pressure of a hydrogen gas. In this presentation, we report the current status of our experimental setups and preliminary results of SiO₂-MgO evaporation experiments.

[1] J. P. Bradley, D. E. Brownlee, D. R. Veblen, *Nature* 301, 473 (1983).

[2] Noguchi et al. (2008), MAPS, Abst# 5129.

[3] Ishii H.A. et al. (2008), *Science* 319, 447-450.

[4] Nakamura-Messenger et al. (2009), MAPS, Abst# 5330.

キーワード：実験、凝縮、蒸発、エンスタタイト

Keywords: experiment, condensation, evaporation, enstatite