

C104-005

Room: 301A

Time: May 19 14:57-15:15

Relationship between grain boundary diffusion coefficient and grain boundary enrichment factor

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Grain boundaries in the earth's mantle have been proposed to work as rapid diffusion paths; however, the diffusion model which includes the effect of grain boundary enrichment factor was absent. Hiraga et al. (2007 GCA) searched its effect and predicted that the larger incompatible elements, which have larger enrichment factor, can diffuse much faster (or longer at certain time), since the elements diffuse forcefully at grain boundaries. We will show our experimental results of the diffusion on submicron mineral aggregates synthesized by our newly developed technique.