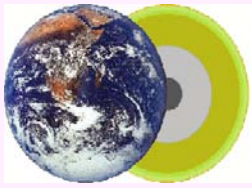
Geodynamics Seminar

第313回ジオダイナミクスセミナー

Toward the experimental study on the serpentinization mechanism of olivine in the presence of supercritical fluid using an externally-heated hydrothermal DAC.

Taku Fujii (Msc.student, Ehime University)

主催：愛媛大学地球深部ダイナミクス研究センター
日時：1/13（金）午後 4時30分～
場所：総合研究棟 4F 会議室



EHIME UNIVERSITY GRC GEODYNAMICS RESEARCH CENTER

Abstract

There has been increasing concern about serpentine minerals because of their petrogenetic and geodynamic importance. They are produced as a result of serpentinization of mantle-derived peridotites at subduction zones. Serpentine minerals are also known as one of the most hydrous rock-forming silicates and can transport a large amount of water to the deep part of the upper mantle along subduction zones. We are currently setting up experimental works to study the serpentinization process of olivine at nanometric to micrometric scales in the presence of supercritical fluid. We use an externally-heated diamond anvil cell (DAC) equipped with a $LaCrO_3$ heater and a thermal couple to conduct reaction runs between forsterite and supercritical water in the P-T range of ~ 5 GPa, 300-600 ℃. In this talk, I will present some results of preliminary heating tests using the externally-heated DAC and also discuss the applicability of the diamond Raman method (Akahama and Kawamura, 2004) for pressure and temperature measurements at low-pressure conditions below 10 GPa.

詳細は当センターホームページ: http://www.ehime-u.ac.jp/~grc/をご覧ください
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