

第7回フロンティア材料研究所講演会 開催のお知らせ

下記のとおり、フロンティア材料研究所講演会を開催いたします。
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日 時 : 2016年6月30日(木)13:30~14:00

場 所 : R3棟1階 会議室

講 師 : Eleonora Kulik (Deutsches Elektronen-Synchrotron, Germany)

**演 題 : “Thermal expansion of coesite: A synchrotron X-ray diffraction study
from 100 K up to 1000 K”**

Coesite is the densest silica polymorph in which silicon is tetrahedrally coordinated by oxygen .However, contrary to other low pressure forms of SiO_2 , coesite does not undergo α - β transition at least up to 1776 K, it also exhibit much lower thermal expansion than quartz and cristobalite. In this work high-temperature structural features of synthetic coesite and its behavior at the microscopic level have been investigated by X-ray powder diffraction . We observed that the thermal expansion of coesite is strongly anisotropic and negative along a c axis . It leads to a very low volume expansion by only 0.7% in the considered temperature range between 100 K and 1000 K. For the material research and ceramic industry the importance of such kind of materials is in their widespread use in high anti-thermal shock applications.

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