

## In-situ observation of forsterite plastic deformation at high pressure and temperature

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[http://www.misasa.okayama-u.ac.jp/~masami/kanzaki\\_j.shtml](http://www.misasa.okayama-u.ac.jp/~masami/kanzaki_j.shtml)

In-situ observation of polycrystalline forsterite deformation at high pressure and temperature using X-ray radiography has been conducted. The results show that shortening at initial compression to 3GPa is large and reached up to 20 % in sample length. This change is mostly due to reduction of pore in the sample. At heating to 1200 C, shortening in sample length and thickening in radial direction is observed. During pressure ramping to 6.5 GPa at 1200 C, about 30 micron shortening in sample length is observed. In-situ observation technique allows us to discuss deformation process quantitatively, which has not been possible before.