

Determination of post-perovskite transition

Shigeaki Ono[1]

[1] IFREE, JAMSTEC

In situ observations of the perovskite-CaIrO₃ phase transition in MgSiO₃ were carried out using a laser-heated diamond anvil cell interfaced with a synchrotron radiation source. The samples were probed using an angle-dispersive X-ray diffraction technique at the synchrotron beam lines BL10XU, SPring-8 and BL13A, Photon Factory in Japan. The phase boundary between the orthorhombic Mg-perovskite and CaIrO₃-type phases in the temperature range of 1200-3000 K was determined using platinum as a pressure calibrant. We confirmed that the CaIrO₃-type phase remained stable up to pressures of at least 160 GPa and temperatures of 2600 K.