

SIT041-P08

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## In situ X-ray tomography observation of connectivity of Ni-S melts in olivine under of high pressure and temperature

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Connectivity of molten iron alloys in solid silicates is a key to understand a percolative core formation process. Measurements of the dihedral angle of liquids contact with the solid in the quenched sample and the in-situ measurements of the electrical conductivity to detect the interconnectivity of liquids can give the information on the percolative core formation, and there have been many studies. However, those previous studies have not provided the 3 dimensional structure of the liquids by which we can estimated a permeability of liquid. Purpose of this study is to obtain those information by means of the X-ray tomography observation. We started the X-ray micro-CT measurements under high pressure and temperature at SPring-8 and have applied it to observe the interconnectivity of liquid metal. We will present the developments of our high-pressure tomography system and also report the preliminary results of connectivity of Ni-S melts, an analogue of molten iron alloys, in olivine under pressure and temperature.

Keywords: percolative core formation, X-ray micro-CT, molten Fe alloy