

## IR absorption spectra of brucite ( $\text{Mg}(\text{OH})_2$ ) under high-pressure and high temperature by IR synchrotron radiation of SPring-8

# Keiji Shinoda[1], Masaaki Yamakata[2], Takao Nanba[3], Hiroaki Kimura[4], Taro Moriwaki[5], Yasuhiro Kondo[6], Tatsuhiko Kawamoto[7], Naoyuki Niimi[8], Naoya Miyoshi[9], Nobuyuki Aikawa[10]

[1] Geosciences, OCU, [2] SPring-8, [3] Dept. Phys. Kobe Univ., [4] BL Div., JASRI, [5] Japan Synchrotron Radiation Research Institute, [6] Dep. Appl. Phys., Tohoku Univ., [7] Inst. for Geothermal Sciences, Kyoto Univ., [8] Geoscience, Osaka City Univ., [9] Geosciences, Osaka City Univ., [10] Geosciences, Osaka City Univ

IR absorption spectra of brucite ( $\text{Mg}(\text{OH})_2$ ) were measured under IR microscope at BL43IR of SPring-8 with HTDAC. A pressure induced absorption peak was observed at high pressure region. This indicates that brucite undergoes phase transition of protons which occupies a new crystallographic site under pressure. The high-pressure phase is unquenchable. In order to determine P-T region of the high pressure phase, IR absorption spectra were measured up to 570K and 12GPa.