

## OH vibrational spectra of topaz up to 1000C

# Kazuki Komatsu[1], Takahiro Kuribayashi[2], Yasuhiro Kudoh[3]

[1] Inst. of Min., Pet. and Econ. Geol., Tohoku Univ., [2] Inst. of Min.,Pet. and Econ. Geol., Tohoku Univ., [3] Tohoku Univ

Temperature dependences of OH vibrational modes of topaz were measured by an infrared spectroscopy under high temperature conditions up to 1000C. At room temperature, OH stretching mode at 3647cm<sup>-1</sup> and OH bending mode at 1165cm<sup>-1</sup> were observed. The OH stretching and bending modes showed different temperature dependences. A linear decrease of the peak position of OH stretching mode from 20°C to 1000°C is probably due to the effect of anharmonicity. On the other hand, the peak position of OH bending mode was almost constant with temperature. Given that the different temperature dependences are due to the difference of the anharmonicity, OH stretching vibration is more important to the dehydration mechanism than OH bending vibration.