

## Equation of state of the NaCl-B2 phase from high-temperature and high-pressure X-ray analyses

# Masanori Matsui[1]; Yasuhiro Ueda[2]; Ayako Yokoyama[2]; Yoshinori Tange[3]; Ken-ichi Funakoshi[4]

[1] School of Sci., Univ. of Hyogo; [2] Univ. of Hyogo; [3] Dept. of Earth & Planetary Sciences, Tokyo Institute of Technology; [4] JASRI

The temperature-pressure-volume (T-P-V) equation of state (EOS) of the B2 phase of sodium chloride (NaCl) was measured at high temperatures between 1023 and 1973 K, and high pressures between 22.9 and 26.3 GPa, using synchrotron powder X-ray diffraction experiments with a Kawai-type multianvil high pressure apparatus, SPEED-Mk.II, at SPring-8. The Mie-Grüneisen-type thermal pressure analysis was made to obtain the T-P-V EOS of the B2 phase over wide temperature and pressure ranges. Some molecular dynamics calculations using a breathing shell model interionic potential, recently developed for the NaCl system, were also carried out to investigate the behavior of thermal pressure of the B2 phase at high temperatures and high pressures. Here we present the T-P-V EOS of the B2 phase up to 3000 K and more than 150 GPa, as a reliable pressure standard at high temperatures and high pressures.