

Poster Presentation

MS17.P03

Temperature variable high-pressure volumetric studies of diethylene glycol

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It was demonstrated that direct compression experiments in a piston-cylinder press provide precise information on volume data and phase transition pressure complementary to X-ray diffraction. The experimental setup, described in detail previously [1], is capable of compressing liquid and solid samples up to ca. 2 GPa. We have continued these studies adding temperature control of the sample. Piston and cylinder chamber was placed in an thermally isolated mantle. The constant temperature was maintained by circulating hot air. As demonstrated by the experiments on diethylene glycol, it is a relatively quick and simple, yet efficient method for exploring phase diagrams and recording volume reduction at phase transition in different thermodynamic conditions.

[1] K. F. Dziubek, A. Katrusiak, *Z. Kristallogr.*, 2014, in press.

Keywords: Volumetric measurements, High pressure crystallography, Phase transitions