

Au – Ge (Gold – Germanium)

Phase diagram

Fujinaga et al. [91 Fuj] have investigated Au-Ge alloys at high-pressure and high-temperature using synchrotron X-ray diffraction. At the eutectic composition instead of crystallizing two phase mixture ((Au) + (Ge)), a single phase (ζ) may occur.

The part of the phase diagram concerning the ζ phase at 7.2 GPa is given in Fig. 1. (taken from [91 Fuj]).

Crystal structure

The ζ - phase has a hcp-structure. Its axial ratio is not far from the ideal c/a value.

Lattice parameters as a function of temperature are given in Fig. 2.

Figures

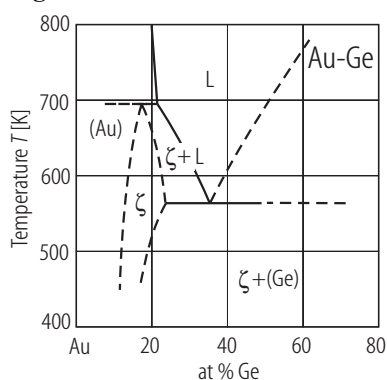


Fig. 1. Au–Ge. Partial phase diagram at 7.2 GPa [91 Fuj].

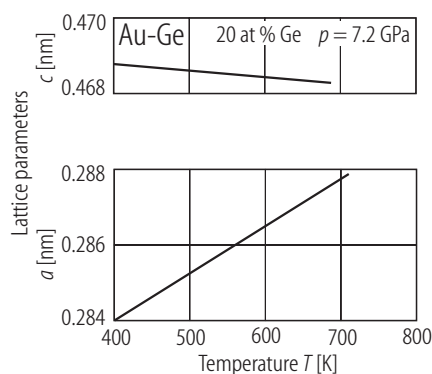


Fig. 2. Au–Ge. Lattice parameters of ζ - phase [91 Fuj].

Reference

- [91 Fuj] Fujinaga, Y., Kasuba, K., Syono, Y., Iwasaki, V., Kikegawa, T.: J. Less-Common Met., **170** (1991) 277