Ge-Sb (Germanium-Antimony)

H. Okamoto

According to [2001Oka], the Ge-Sb phase diagram was thermodynamically analyzed by [1989Che] and [1999Sch] based on the evaluation of this system performed by [1986Ole]. In these works, the phase diagram was characterized by a simple eutectic form with a very small retrograde solubility of Sb in (Ge) (max about 0.03 at.%) and no solubility of Ge in (Sb).

Figure 1 shows the Ge-Sb phase diagram calculated by thermodynamic optimization by [2011Liu]. According to Fig. 1, about 6 at.% Ge is soluble in (Sb). This value was obtained based on the solubility data of [2009Nas]. This measurable solubility of Ge in (Sb), instead of no solubility [1986Ole], was reported earlier in [Hansen] and adopted in the Ge-Sb phase diagram revised by [1986Bor], where the maximum solubility was estimated to be a little smaller (approximately 4 at.% Ge).

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Fig. 1 Ge-Sb phase diagram