Bi-Tm (Bismuth-Thulium)

H. Okamoto

[1999Oka] showed the Bi-Tm phase diagram reported by [1996Abd] and pointed out that the shape of the BiTm liquidus must be reexamined because its extension to the 0 at.% Tm side would cross the pure Bi line unless a very unlikely abrupt change of slope is introduced. This thermodynamically unlikely situation was “confirmed” by [2003Abu] by means of DTA, x-ray diffraction, and microstructural analysis, as reported by [2006Oka].

However, [2006Oka] still strongly suspected the shape of the Bi-Tm liquidus near the Bi-rich end of the phase diagram.

Figure 1 shows the Bi-Tm phase diagram thermodynamically assessed by [2010Wan]. The phase boundary data used in this assessment were primarily based on [2003Abu]. The appearance of the BiTm liquidus near the Bi-rich end is normal in Fig. 1. Accordingly, this phase diagram is preferred to the one shown in [2006Oka].

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Fig. 1 Bi-Tm phase diagram