

# Bi-Tm (Bismuth-Thulium)

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[1999Oka] showed the Bi-Tm phase diagram reported by [1996Abd] (dashed lines in Fig. 1) 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. It could have been caused by inappropriate drawing because there was no data point below 10 at.% Tm.

However, this unlikely situation near the Bi end was “confirmed” by [2003Abu] by means of differential thermal analysis, x-ray diffraction, and microstructural analysis (solid lines in Fig. 1). Because this is thermodynamically extremely unlikely, this range must be examined once again. If this situation is real, there must be a unique and interesting reason for it.

## References

- 1996Abd:** M.N. Abdusalyamova, A.G. Chuiko, E.I. Shishkin, and O.I. Rachmatov, Phase Diagrams and Thermodynamic Properties of Rare Earth-Bismuth Systems, *J. Alloys. Compd.*, 1996, **240**, p 272-277
- 1999Oka:** H. Okamoto, Bi-Tm (Bismuth-Thulium), *J. Phase Equilib.*, 1999, **20**(2), p 164
- 2003Abu:** V.D. Abulkhaev, Phase Relations and Properties of Alloys in the Tm-Bi System, *Neorg. Mater.*, 2003, **39**(1), p 54-57, in Russian; TR: *Inorg. Mater.*, 2003, **39**(1), p 47-49

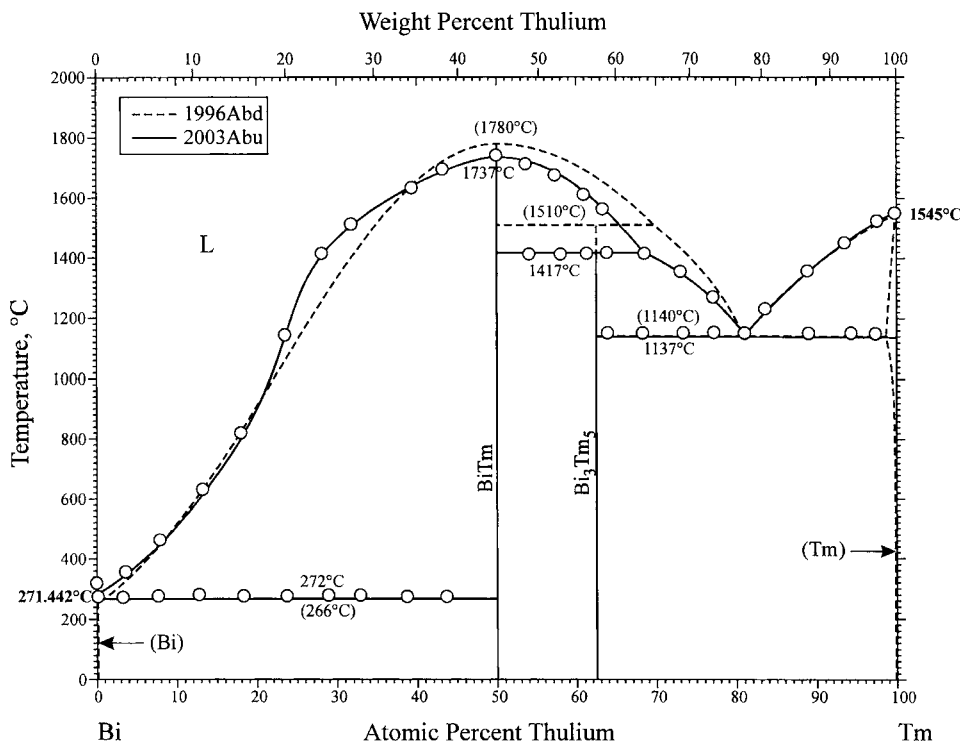


Fig. 1 Bi-Tm phase diagram