Th-U (Thorium-Uranium)

H. Okamoto

The Th-U phase diagram in [Masslski2] was redrawn from [1985Pet], which was based on experimental phase boundary data reported by [1950Car], [1958Ben], [1958Mur], and [1972Bad]. Figure 1 shows the Th-U phase diagram calculated by [2009Li] based on the same data set as used in the evaluation by [1985Pet].

Earlier, [1980Cha] obtained the Th-U phase diagram of a simple eutectic type with no miscibility gap in the liquid phase by thermodynamic modeling. The existence of the miscibility gap with the peak at 1555 °C was reported by [1972Ack] also. Therefore, the existence of the miscibility gap seems to be real and the thermodynamic model of [1980Cha] may be in need of further refinement.

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Fig. 1 Th-U phase diagram