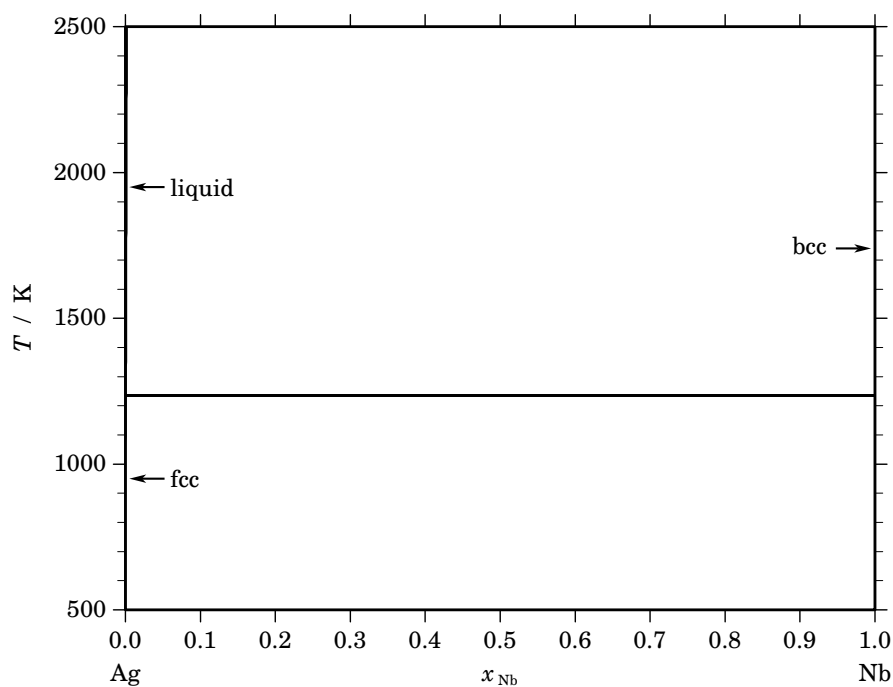


Ag – Nb (Silver – Niobium)**Fig. 1.** Calculated phase diagram for the system Ag-Nb.

A review on the scarce information about the Ag-Nb system has been given by [1989Bar]. Results of X-ray diffraction, electrical conductivity, and metallographic studies [1963Kie] showed that the solubility of Nb in liquid Ag is extremely small. No intermediate compounds have been reported for the Ag-Nb system, which apparently is similar to the Ag-W, Ag-Mo, and Ag-V systems. Based on the information of the systems mentioned above the thermodynamic descriptions for all the stable phases (liquid, fcc, bcc) in the Ag-Nb system have been estimated by Korb [2004Kor].

Table I. Phases, structures and models.

Phase	Strukturbericht	Prototype	Pearson symbol	Space group	SGTE name	Model
liquid					LIQUID	(Ag,Nb) ₁
fcc	A1	Cu	<i>cF4</i>	<i>Fm$\bar{3}m$</i>	FCC_A1	(Ag,Nb) ₁
bcc	A2	W	<i>cI2</i>	<i>Im$\bar{3}m$</i>	BCC_A2	(Ag,Nb) ₁

Table II. Invariant reactions.

Reaction	Type	<i>T</i> / K	Compositions / <i>x</i> _{Nb}			$\Delta_r H$ / (J/mol)
liquid + bcc \rightleftharpoons fcc	peritectic	1235.2	0.001	1.000	0.001	–11256

References

- [1963Kie] R. Kieffer, H. Nowotny: Metallwiss. Tech. (Berlin) **17** (1963) 669–677.
[1989Bar] M.R. Baren: Bull. Alloy Phase Diagrams **10** (1989) 640.
[2004Kor] J. Korb, unpublished assessment, GTT-Technologies, 2004.