

Thematic course: Hydrochemical synthesis of metal chalcogenide films. Part 8.

The thermodynamic analysis conditions of formation and chemical bath deposition of solid solutions replacements in system $\text{Cu}_2\text{Se}-\text{In}_2\text{Se}_3$

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Abstract

Calculation of ionic equilibrium with using of thermodynamic constants for systems "chloride indium – copper chloride – selenium carbamide – ammonia – sodium sulphite" and "indium chloride – copper chloride – sodium selenosulphate" defines boundary conditions of formation Cu_2Se and In_2Se_3 and their hydroxides in the account the crystallization factor. It was experimentally shown that bath deposition of thin films of solid solutions of replacement $\text{In}_x\text{Cu}_{1-x}\text{Se}_2$ of various compositions, their composition and crystal structure are investigated.