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Thermodynamic analysis conditions for the formation and chemical hydrochemical deposition of solid substitution solutions in the system $Cu_2S-In_2S_3$

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Abstract

Calculation of ionic equilibrium using the thermodynamic constants for systems "indium chloride − copper chloride − thiourea" and "indium chloride − copper chloride − thiourea – trilon B" defines boundary conditions of Cu_2S and In_2S_3 and their hydroxides formation with the account of the crystallization factor. It has been experimentally shown that there is the possibility of getting films of solid $In_xCu_{1-x}S_2$ solutions of various compositions thin $In_xCu_{1-x}S_2$ solid substitution solutions by hydrochemical deposition.