

Structural Features of $\text{Sm}_{1-x}\text{Eu}_x\text{S}$ Thin Polycrystalline Films

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Thin polycrystalline $\text{Sm}_{1-x}\text{Eu}_x\text{S}$ films ($x = 0.1, 0.167, 0.2, 0.25, 0.33, 0.5$) were prepared by evaporation of SmS and EuS powders. Structural features of the films were investigated. The influence of Eu concentration and temperature of film deposition on the value of lattice parameter and sizes of x -ray coherent scattering regions was studied. It is shown that formation of $\text{Sm}_{1-x}\text{Eu}_x\text{S}$ films comes about according to the theory that was previously suggested for SmS films and that the deviation of lattice parameter is explained by the variable valence of samarium ions.

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