

STRUCTURE AND OPTICAL PROPERTIES OF
SOLID SOLUTIONS $\text{In}_x\text{Tl}_{1-x}\text{I}$

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S u m m a r y

We present the results of investigation of physical properties of the first grown solid solutions $\text{In}_x\text{Tl}_{1-x}\text{I}$ in the concentration region $0.2 < x < 1.0$. Parameters of the crystal lattice and their variance in the process of cation substitution of sites are calculated. On the basis of the dependence of low-temperature ($4.2 \leq T \leq 77$ K) luminescence spectra, their intensity, and the position of maxima on temperature, we conclude on the nature of possible channels of recombination. Peculiarities of the spectral distributions are revealed.