SINGLE-CRYSTALLINE QUATERNARY CHALCOQENIDE COMPOUNDS $AgCd_2GaS_4$ AND THEIR PHYSICAL PROPERTIES

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S u m m a r y

Little-studied single-crystalline compounds of the content $AgCd_2GaS_4$, which crystallize by forming the rhombic structure (space group $Pmn2_1$), have been studied. The violation of sample stoichiometry and the stochastic occupation of the cation sublattice by Ag and Ga ions result in the violation of long-range order and make $AgCd_2GaS_4$ compounds more similar to disordered systems. On the basis of studying the temperature dependence of the electrical conductivity and the spectra of thermally induced conductivity, the energy levels of defect centers in the semiconductor energy gap have been determined. The experimental results obtained were used to develop a qualitative model for the distribution of the electron density of states in $AgCd_2GaS_4$ semiconductors.