

Heat capacity and electrical resistivity of $(\text{Pb}_y\text{Sn}_{1-y})_2\text{P}_2\text{S}_6$ chalcogenides

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In this contribution we present the results of study of heat capacity and electrical resistivity of the chalcogenides $(\text{Pb}_y\text{Sn}_{1-y})_2\text{P}_2\text{S}_6$ where Pb content varies from 0 till 0.6. We have studied the low temperature behaviour of heat capacity from the point of Pb influence on change of phonon contribution. We used Debye and Einstein theory in order to fit the experimentally observed contribution. Moreover, we present the results of study of temperature dependence of electrical resistivity and influence of an applied magnetic fields up to 3 T. The electrical resistivity was studied in the temperature range 50 - 400 K due to low temperature semiconducting behaviour. We studied the influence of phase transition and relaxation processes.