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Doping Effects of Ga And Te On The Kinetic Coefficients of Rhombohedral And Cubic Phases Of  
 $\text{Ge}_{1-x}\text{Ga}_x\text{Te}$  Solid Solution Alloys

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**Abstract:** In this study Ga and Te doping effects on the kinetic parameters (thermo e.m.f., electrical conductivity, heat conductivity, Hall and Nernst-Ettingshausen coefficients) of the rhombohedral and cubic phases of  $\text{Ge}_{1-x}\text{Ga}_x\text{Te}$  ( $0 < x \leq 0,06$ ) solid solutions has been investigated between 77-900 K temperature intervals. Increase in the amount of Te increases hole concentration and reduces lattice constant, whereas rhombohedral properties of GeTe rises with increase of Ga concentration. The observed anomalies on the kinetic parameters may be explained qualitatively by the complexity of the Fermi surface shape and the zone model of GeTe which involves the separation of the L extremums that is same for  $\alpha$ ,  $\beta$  and  $\gamma$  phases of the compound.

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