

Thermoelectric Power of Fe-Ge Solid Solutions at High Temperatures

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The paper presents results of electrical resistivity $\rho(T)$ and thermoelectric power $S(T)$ investigation of solid solutions of germanium in iron (Ge concentration was varied in the range of 0.5 to 25 at.%) in the temperature range of 300 to 1650 K.

$\rho(T)$ and $S(T)$ curves are nonlinear below the Curie point. This is associated with the fact that in this temperature range charge carrier mobility is essentially affected by spin-disorder. When $T > T_C$, electric resistance and thermoelectric power depend on temperature by an almost linear law. Such nature of temperature dependences testifies that phonons play the most important role in the scattering of charge carriers at high temperatures.