

عنوان مقاله:

Temperature dependence of resistivity of RFeAsO compounds

محل انتشار:

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خلاصه مقاله:

The resistivity (ρ) data for RFeAsO compounds ($R = \text{Ce, Pr, Nd, Sm}$), in the temperature (T) range 35–315 K have been analyzed to identify the dominant scattering mechanisms. Close to the room temperature, the system appears to be a metal with low electron density, and the electron–phonon scattering is the dominant one. At lower temperatures, electron–electron scattering plays an important role. In an intermediate temperature region, unlike metallic system, $d\rho/dT$ is negative; and ρ^{-1} varies as $\ln T$ as in a state of weak localization. We look into the origin of negative $d\rho/dT$. The analysis of $\rho(T)$ data below the SDW transition temperature shows the presence of electron–electron interaction in addition to a SDW energy gap, and also gives an estimate of the SDW energy gap.

کلمات کلیدی:

Oxypnictides Resistivity Transport Weak localization

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