A B S T R A C T

Electron-phonon interaction accounts the temperature dependent component of the electrical resistivity of metals and alloys. The effect of the impurity atoms in the host matrix on the electrical resistivity depends on whether the impurity atoms has its localized magnetic moments or not. The s-d exchange interaction causes anomalous temperature dependence to the resistivity. The simultaneous presence of the electron-phonon interaction and s-d exchange interaction produces interference terms along with the modified Kondo effect. The model can be used to calculate the change of work function and the chemisorption energy. Finally the energy gap and the transition temperature is also found to be affected by the s-d exchange interaction.