

INFLUENCE OF RUTHENIUM DOPING ON ELECTRIC AND MAGNETIC PROPERTIES OF THE PEROVSKITE COMPOUND SYSTEM $\text{Ca}_{0.6}\text{Pr}_{0.4}\text{Mn}_{1-y}\text{Ru}_y\text{O}_3$ ($y = 0, 0.03, 0.05, 0.07$)

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TÓM TẮT:

We study the influence of ruthenium doping on electric and magnetic properties of $\text{Ca}_{0.6}\text{Pr}_{0.4}\text{Mn}_{1-y}\text{Ru}_y\text{O}_3$ ($y = 0, 0.03, 0.05, 0.07$) perovskite prepared by solid state reaction method. The ZFC and FC thermomagnetic, magnetization measurements indicate the increasing tendency of ferromagnetism due to ruthenium doping. The charge ordering phenomenon observed at $T_{CO} \sim 291\text{K}$ in $\text{Ca}_{0.6}\text{Pr}_{0.4}\text{MnO}_3$ sample. Temperature dependence of resistivity curve is depressed with increasing Ru amount. The variable range hopping nature of sample's conductivity is discussed.