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Structural and electrical properties of the ceramicmanganite Pr0.6Sr0.4Mn1-xCuxO3

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Abstract : The ceramics that are the focus of this paper ,have a Perovskite structure (ABO),with the general chemicalformula Pr0.6Sr0.4Mn1-xCuxO33(x=0.05) .The compounds areprepared by solid state reaction. The X-ray diffraction data areanalyzed and it has been found that all the compoundscrystallize in the orthorhombic structure. The observations bySEM show that the grain size decreases by copper doping. Thetemperature of magneto-resistivity curves are registered fromroom temperature down to 50K under a magnetic field up to 5Tesla and showed that the undoped sample present a metalinsulatortransition (I-M) at a temperature T 210,23 K.Some physical parameters are extracted and their evolutionwith magnetic field are presented and discussed.

Keywords : manganite, ceramic, Doping, resistivity