Comparative Study of Structural and Electrical Study of Bismuth Doped At La and Mn Site of La0.7Sr0.3mno3

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***Abstract*—We report the structural and electrical properties of polycrystalline bismuth (Bi) doped La0.7Sr0.3MnO3 (x = 0, 0.1 and 0.2) at La(A) and Mn(B) site. Refinement of X-ray powder diffraction patterns show that all samples crystallize in Rhombohedral structure with *R-3C* space group. There is decrease in unit cell volume as well as metal to insulator transition temperature *TMI* in both site Bi doping. It is found that values of resistivity are higher at B site doping compared that of A site for all concentrations. It is found that the value of *TMI* is a 233K and 227K and resistivity at peak is 184m Ω-cm and 675mΩ-cm in La and Mn doped samples respectively for x=0.1. The competition between the Mn–O–Mn double exchange and the Bi–O–Mn super-exchange of Mn3+ by Bi3+ may explain the increase in resistivity**

***Index Terms*: Manganites, Cation vacancy, Bismuth, Polarization**