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Structural and magneto-electrical properties of fluorine doped $La_{0.7}Ca_{0.3}MnO_3$ perovskite manganites[1] SEVGI POLAT ALTINTAS, Department of Physics, Faculty of Arts and Sciences, Abant Izzet Baysal University, 14280 Bolu, Turkey, NABIL MAHAMDIOUA, LEND, Université de Jijel, B. P 98 Jijel 18000, Algeria, CABIR TERZIOGLU, Department of Physics, Faculty of Arts and Sciences, Abant Izzet Baysal University, 14280 Bolu, Turkey, ABDERREZAK AMIRA, LEND, Université de Jijel, B. P 98 Jijel 18000, Algeria — The role of fluorine doping for oxygen in $La_{0.7}Ca_{0.3}MnO_yF_x$ (x=0.0, 0.2, 0.4, 0.6) system has been investigated by means of X-ray diffraction, resistivity and susceptibility measurements. The oxygen content of the samples was determined by a redox back titration method and the Rietveld refinement was used to characterize structurally the manganites. The metal-insulator transition temperature T_{MI} of all samples is found to increase by fluorine doping. In order to understand the conduction mechanism, the phenomenological percolation approach which depends on the phase segregation of ferromagnetic clusters and paramagnetic insulating regions was used.

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