

**PRESSURE EFFECTS ON MAGNETIC PROPERTIES OF
MANGANITES NEAR PERCOLATION THRESHOLD**

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9.7 cm

Effects of hydrostatic pressure up to 11 kbar on magnetic properties of $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$ ($x = 0.18, 0.20, 0.22$) and $\text{Pr}_{1-x}\text{Sr}_x\text{MnO}_3$ ($x = 0.22, 0.24, 0.26$) single crystals were studied near percolation threshold x_c which is observed at $x = 0.22$ and at $x = 0.24$ for La and Pr based manganites, respectively. In both systems magnetic ordering temperature T_c of the Mn spin sublattice increases upon applying the pressure. The pressure coefficient dT_c/dP for both systems enhances significantly near x_c and then the changes are much smaller with increasing doping. It was found that in the case of $\text{Pr}_{1-x}\text{Sr}_x\text{MnO}_3$ system the nature of the ferro-to-paramagnetic transition of the Mn spin system evaluates with increasing doping from a continuous second order transition ($x < x_c$) to a more abrupt first order-like transition ($x > x_c$). For $\text{Pr}_{0.76}\text{Sr}_{0.24}\text{MnO}_3$ sample an applied pressure changes the character of the phase transition from nearly a continuous one at $P = 0$ to more abrupt, almost discontinuous one at $P = 11$ kbar.

13.4 cm

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