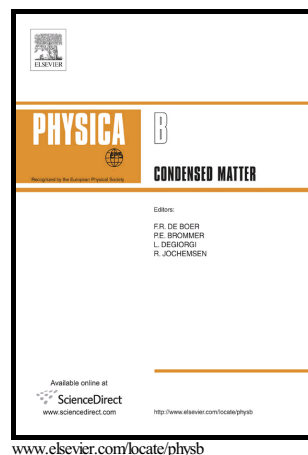


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Magnetic and magnetocaloric properties of polycrystalline $\text{La}_{0.48}\text{Ca}_{0.52}\text{MnO}_3$ compound at low temperature: influence of glassy magnetic state

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We report the magnetic, magnetocaloric and electrical transport properties of polycrystalline bulk $\text{La}_{0.48}\text{Ca}_{0.52}\text{MnO}_3$ compound. In addition to earlier reported properties *viz.* charge ordering and antiferromagnetic ordering, we address the presence of glassy magnetic phase at low temperature ($T < 40$ K) in this compound. Studies on magnetic and magnetocaloric properties reveal that, pronounced glassy behaviour in this compound is due to presence of ferromagnetic clusters in the low-temperature region. In addition to that, analysis of low-temperature x-ray diffraction measurements indicate increasing crystallographic unit cell volume which is attributed to the enhancement of e_g -electron bandwidth at low temperature.

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