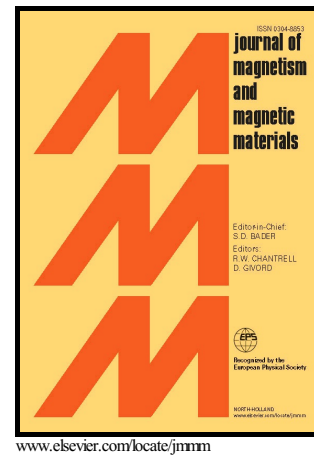


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Monte Carlo Simulation Study of Magnetocaloric Effect in NdMnO₃ Perovskite

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Abstract:

The magnetocaloric effect in NdMnO₃ perovskite is investigated by using the Monte Carlo simulations. The Curie temperature T_C of NdMnO₃ compound is deduced from the variation of the magnetization versus the temperature with different values of external magnetic field. The variation of magnetization with the external magnetic field H is given. The specific heat with the temperature is established for different external magnetic field. The thermal magnetic entropy for different external magnetic field and different exchange interactions in NdMnO₃ compound is obtained. The adiabatic temperature change is obtained. The relative cooling power with different external magnetic field is established. The magnetocaloric effect has been investigated from magnetization.

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