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Magnetocaloric Effect in Perovskite Manganites

H. Gencer, V.S. Kolat, T. Izgi, N. Bayri, S. Atalay

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Keyword: Magnetic Refrigeration, Magnetocaloric Effect, Perovskite Manganites, Perovskite Structure, Magnetic Entropy, Magnetic Hysteresis, Thermal Hysteresis, Chemical Stability, Curie Temperature, Saturation Magnetization,

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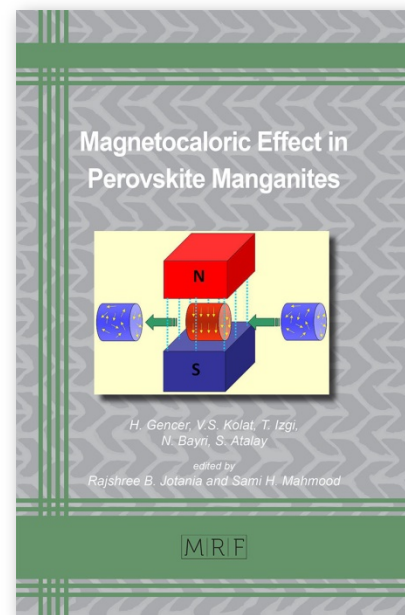
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Summary:

For environmental concerns, it is highly desirable to replace gas-based refrigeration by magnetic refrigeration. Magnetic refrigeration has significant advantages such as small volume, chemical stability, low cost, non-toxicity and not causing sound pollution. Among the pertinent magnetocaloric materials, perovskite manganites are of special interest because they exhibit extremely large magnetic entropy and adiabatic temperature variations, a small thermal or magnetic hysteresis, high chemical stability. Further, the Curie temperature and saturation magnetization can be tailored by changing doping element and doping concentrations. The book references 289 original resources and includes their direct web link for in-depth reading.



Full Color Print Book Information

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