9.7 cm

LARGE MAGNETOCALORIC EFFECT IN $NdNi_4Si$ COMPOUND

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On the basis of the thermodynamic approach, we report the magnetocaloric properties of the ternary ferromagnetic $NdNi_4Si$ compound with magnetic phase transition temperature T_C at 8 K, the saturated magnetic moment in $H = 9$ T equal $1.5\mu_B$/f.u. at 4.2 K and crystallizing in hexagonal $CaCu_5$-type structure (P6/mmm space group). The magnetocaloric effect was calculated in terms of the isothermal magnetic entropy change ΔS_M as well as the adiabatic temperature change ΔT_{ad} using the heat capacity data. Within the second order phase transition large values of these parameters have been observed.

13.4 cm

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