

Table Caption

Table 1: Structural parameters for $\text{Nd}_{1-3x}\text{Sr}_x\text{Ba}_x\text{Ca}_x\text{MnO}_3$ ($x=0.11$ and 0.133) samples at room temperature.

Table 2: Experimental and theoretical effective moment μ_{eff}^{exp} and μ_{eff}^{theo} , curie-Weiss temperature θ_{CW} as a function of x content for $\text{Nd}_{1-3x}\text{Sr}_x\text{Ba}_x\text{Ca}_x\text{MnO}_3$ ($x=0.11$ and 0.133) compounds.

Table 3: Maximum entropy change $-\Delta S_M^{max}$, magnetic transition temperature T_C , magnetic field H and relative cooling power (RCP) for $\text{Nd}_{0.67}\text{Ba}_{0.11}\text{Ca}_{0.11}\text{Sr}_{0.11}\text{MnO}_3$ and $\text{Nd}_{0.6}\text{Ba}_{0.133}\text{Ca}_{0.133}\text{Sr}_{0.133}\text{MnO}_3$ samples compared to other magnetic materials.

Sample	x=0.11	x=0.133
Nd(Ba, Ca and Sr)		
Structure type	Orthorhombic	Orthorhombic
Space group	<i>Pbnm</i>	<i>Pbnm</i>
a(Å)	5.46 (2)	5.43 (3)
b(Å)	5.459 (7)	5.444 (3)
c(Å)	7.722 (2)	7.728 (5)
V(Å ³)	230.19(3)	228.48(2)
$\langle r_A \rangle$ (Å)	1.204	1.213
t _G	0.895	0.904
Atoms		
Nd,Ba,Sr,Ca site (x,y,z)	0.00735(7)	0.00684 (1)
	0.01864(2)	0.01730 (6)
	0.25000(-)	0.25000(-)
Mn site (x,y,z)	0.50000(-)	0.50000(-)
	0.00000(-)	0.00000(-)
	0.00000(-)	0.00000(-)
O₁ site (x,y,z)	0.54688(9)	0.51078(1)
	0.01018(3)	0.02550 (4)
	0.25000(-)	0.25000(-)
O₂ site (x,y,z)	0.28916(4)	0.30556(4)
	0.24784(7)	0.23145 (4)
	0.50004(7)	0.52924 (3)
B(A^{o2})		
Nd,Ba,Sr,Ca	0.579(3)	0.742 (6)
Mn	0.098(-)	0.000(-)
O₁ site	2.215(-)	0.000(-)
O₂ site	2.141(4)	0.000(-)
Eta	0.42(8)	1.412(1)
U	0.206(1)	0.020(5)
V	-0.05(1)	0.042(5)
W	0.017 (2)	0.00074(1)
Disperancy factors		
R_{wp}(%)	11.8	6.65
R_p	8.15	4.84
R_F(%)	1.27	16.7
χ² (%)	1.68	3.23

Table 1

Parameters	x=0.11	x=0.133
H= 200Oe	Temperature range >325K	
$\theta_{CW} (K)$	$169 < \theta_{CW} < 186$	$172 < \theta_{CW} < 232$
$\mu_{eff}^{exp} (\mu_B)$	$6.80 < \mu_{eff}^{exp} < 6.92$	$6.02 < \mu_{eff}^{exp} < 6.84$
For 165K <T <285K		
$\theta_{CW} (K)$	$145 < \theta_{CW} < 153$	$141 < \theta_{CW} < 147$
$\mu_{eff}^{exp} (\mu_B)$	$7.73 < \mu_{eff}^{exp} < 7.82$	$7.79 < \mu_{eff}^{exp} < 7.86$
$\mu_{eff}^{theo} (\mu_B)$	5.46	5.35

Table 2

Sample	T _c (K)	H(T)	$-\Delta S_M^{max}$ (J/KgK)	RCP(J/Kg)	Ref
Nd_{0.55} Sr_{0.45}MnO₃	274	3	3.12	71	[38]
Nd_{0.5}Ca_{0.25}Sr_{0.25}MnO₃	175	3	1.85	140	[39]
Nd_{0.67}Ba_{0.11} Ca_{0.11} Sr_{0.11}MnO₃	120	3	1.68	89.45	this work
Nd_{0.6}Ba_{0.133} Ca_{0.133} Sr_{0.133}MnO₃	145	3	4.1	132.45	this work

Table 3