

# Investigation of Physical Properties of Rare Earth and Transition Metal Based Oxides and Intermetallics Showing Significant Magnetocaloric Effect

A Thesis

*submitted by*

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*for the award of the degree*

*of*

**Doctor of Philosophy**



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## Declaration by the Scholar

I hereby declare that the entire work embodied in this Thesis is the result of investigations carried out by me in the *School of Basic Sciences*, Indian Institute of Technology Mandi, India, under the supervision of *Dr. Kaustav Mukherjee*, and that it has not been submitted elsewhere for any degree or diploma. In keeping with the general practice, due acknowledgements have been made wherever the work described is based on finding of other investigators.

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## Declaration by the Research Advisor

I hereby certify that the entire work in this Thesis has been carried out by **Mohit Kumar Sharma** under my supervision in *School of Basic Sciences*, Indian Institute of Technology Mandi, and that no part of it has been submitted elsewhere for any Degree or Diploma.

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Name of the Guide: Dr. Kaustav Mukherjee

Date:



*Dedicated to my dear parents  
and  
my family*





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# Contents

<b>Chapter 1: Introduction</b>	<b>1</b>
1.1 Magnetism: Some basic aspects	2
1.2 Exchange interactions	3
1.3 Mixed transition metal oxides	5
1.4 Binary intermetallics	6
1.5 Exchange bias, frustration and glass-like magnetic state	7
1.6 Magnetocaloric effect	9
1.7 Multiferroicity	14
1.8 Aim of the present work	15
1.9 Framework of thesis	17
References	20
<b>Chapter 2: Preparation and characterization of compounds under investigation</b>	<b>27</b>
2.1 Solid State Ceramic route and Arc melting technique	28
2.2 Structural characterization using powder x-ray diffraction	29
2.3 Compounds under investigation	32
2.3.1 Synthesis and structural analysis of $\text{YFe}_{0.5}\text{Cr}_{0.5}\text{O}_3$	32
2.3.2 Synthesis and structural analysis of $\text{Dy}_{1-x}\text{A}_x\text{Fe}_{0.5}\text{Cr}_{0.5}\text{O}_3$ series (A = Gd, Er and La and Ca).	33
2.3.3 Synthesis and structural analysis of $\text{R}_5\text{Pd}_2$ (R = Tb, Dy, and Er) and $\text{Dy}_5\text{PdNi}$	35
2.4 Experimental techniques	36
2.5 Summary	38
References	39

**Chapter 3: Exchange bias in a mixed metal oxide based magnetocaloric compound  $\text{YFe}_{0.5}\text{Cr}_{0.5}\text{O}_3$  41**

3.1	Introduction	42
3.2	Magnetization and heat capacity studies	43
3.3	Magnetocaloric effect	46
3.4	Exchange bias study	47
3.5	Summary	52
	References	53

**Chapter 4: Magnetic and universal magnetocaloric behaviour of  $\text{Dy}_{0.8}\text{R}_{0.2}\text{Fe}_{0.5}\text{Cr}_{0.5}\text{O}_3$  (R = Er, Gd and La) 55**

4.1	Introduction	56
4.2	Magnetization, heat capacity and Arrot plots studies	57
4.3	Effect of rare earth substitution on magnetocaloric properties	61
4.4	Power law behaviour and universal scaling	63
4.5	Summary	66
	References	67

**Chapter 5: Effect of rare earth (Er and Gd) substitution on the magnetic and multiferroic properties of  $\text{DyFe}_{0.5}\text{Cr}_{0.5}\text{O}_3$  69**

5.1	Introduction	70
5.2	Magnetization and heat capacity studies	71
5.3	Magnetocaloric effect	75
5.4	Temperature and magnetic field response of dielectric behaviour	76
5.5	Electric polarization study	79
5.6	Summary	81
	References	82

**Chapter 6: Enhancement of magnetic ordering temperature and magnetodielectric coupling by hole doping in a multiferroic  $\text{DyFe}_{0.5}\text{Cr}_{0.5}\text{O}_3$**  **85**

6.1	Introduction	86
6.2	Effect of hole doping on the magnetic and magnetocaloric properties of $\text{DyFe}_{0.5}\text{Cr}_{0.5}\text{O}_3$	87
6.3	Dielectric and magnetodielectric properties of $\text{Dy}_{0.6}\text{Ca}_{0.4}\text{Fe}_{0.5}\text{Cr}_{0.5}\text{O}_3$	90
6.4	Summary	93
	References	94

**Chapter 7: Complex magnetic behaviour and evidence of a superspin glass state in a binary intermetallic compound  $\text{Er}_5\text{Pd}_2$**  **97**

7.1	Introduction	98
7.2	DC magnetization study	99
7.3	Field cooled and zero field cooled memory effect	103
7.4	Time dependent magnetization study	104
7.5	AC susceptibility measurement	105
7.6	Nonlinear DC magnetic susceptibility	108
7.7	Magnetocaloric effect	110
7.8	Summary	112
	References	113

**Chapter 8: Nonequilibrium behaviour and evidence of double glass-like magnetic state in  $\text{R}_5\text{Pd}_2$  (Tb, Dy) and  $\text{Dy}_5\text{PdNi}$  magnetocaloric compounds** **117**

8.1	Introduction	118
8.2	Evidence of double glass transition and magnetocaloric studies of $\text{Tb}_5\text{Pd}_2$	119
8.3	Magnetic and magnetocaloric properties of $\text{Dy}_5\text{Pd}_2$ and $\text{Dy}_5\text{PdNi}$	128

8.4	Universal scaling analysis and power law study of $R_5Pd_2$ ( $R=Tb, Er$ and $Dy$ ) and $Dy_5PdNi$	135
8.5	Summary	139
	References	140
	<b>Chapter 9: Conclusion and future work</b>	<b>145</b>
9.1	Conclusions	146
9.2	Future work	148
	<b>List of publications</b>	<b>151</b>