

Accepted Manuscript

Title: Resistivity, I–V characteristics and Hall effect in $\text{Dy}_{0.5}(\text{Sr}_{1-x}\text{Ca}_x)_{0.5}\text{MnO}_3$ manganites

Authors: R. Hamdi, A. Tozri, M. Smari, E. Dhahri, L. Bessais

PII: S0025-5408(17)31738-5
DOI: <http://dx.doi.org/10.1016/j.materresbull.2017.08.035>
Reference: MRB 9513

To appear in: *MRB*

Received date: 2-5-2017
Revised date: 29-7-2017
Accepted date: 14-8-2017

Please cite this article as: R.Hamdi, A.Tozri, M.Smari, E.Dhahri, L.Bessais, Resistivity, I–V characteristics and Hall effect in $\text{Dy}_{0.5}(\text{Sr}_{1-x}\text{Ca}_x)_{0.5}\text{MnO}_3$ manganites, Materials Research Bulletin <http://dx.doi.org/10.1016/j.materresbull.2017.08.035>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Resistivity, I–V characteristics and Hall effect in $\text{Dy}_{0.5}(\text{Sr}_{1-x}\text{Ca}_x)_{0.5}\text{MnO}_3$ manganites

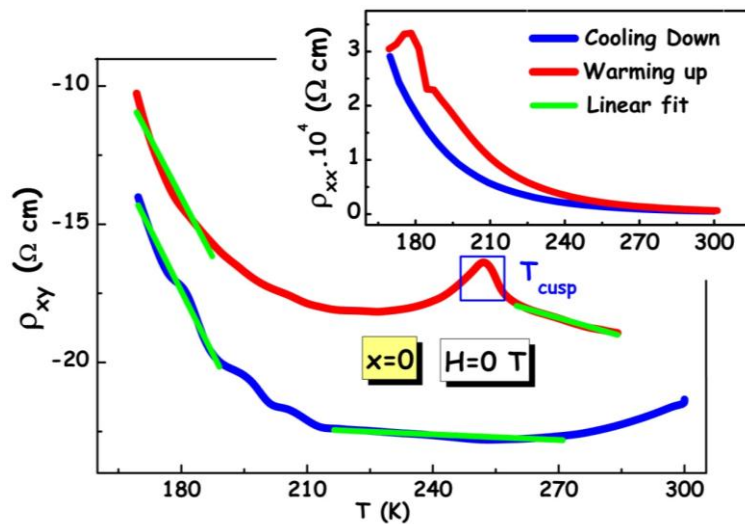
R. Hamdi ^{a,*}, A. Tozri ^a, M. Smari ^{a,b}, E. Dhahri ^a and L. Bessais ^c

^a Laboratoire de Physique Appliquée, Faculté des Sciences, Université de Sfax, B.P. 1171, Sfax 3000, Tunisia

^b Center for Functionalized Magnetic Materials (FunMagMa), Immanuel Kant Baltic Federal University, 236041, Kaliningrad, Russia.

^c CMTR, ICMPE, UMR 7182 CNRS-UPEC, 2 rue Henri Dunant, F-94320 Thiais, France

Graphical abstract



Highlights

- $\text{Dy}_{0.5}(\text{Sr}_{1-x}\text{Ca}_x)_{0.5}\text{MnO}_3$ ($x = 0$ and $x = 0.3$) manganites were prepared using sol-gel method.
- Thermal variation resistivity of both systems has been studied and showed that these samples exhibited an insulating behavior.
- The application of 5 T magnetic fields does not change the insulating state.
- I–V characteristics of the two samples deviate from the Ohmic behavior.
- Magnetoresistance and electroresistance provided negative values.
- Hall resistivity ρ_{xy} of the $\text{Dy}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$ sample was carried out in the cooling down and warming up processes revealing electron-like type of the charge carriers.
- The temperature coefficient of resistance (TCR) shows very significant values for both systems making them good candidates for bolometer applications.

Abstract

$\text{Dy}_{0.5}(\text{Sr}_{1-x}\text{Ca}_x)_{0.5}\text{MnO}_3$ ($x = 0$ and $x = 0.3$) manganites were synthesized using sol-gel method. Both samples exhibited an insulating behavior in the whole temperature range. Even

Download English Version:

<https://daneshyari.com/en/article/5441844>

Download Persian Version:

<https://daneshyari.com/article/5441844>

[Daneshyari.com](https://daneshyari.com)