Solid State Science and Technology, Vol. 20, No 1& 2 (2012) 96-101
ISSN 0128-7389

STRUCTURAL AND ELECTRICAL PROPERTIES OF $La_{0.67}Ba_{0.33}MnO_3$ THIN FILM DEPOSITED ON CORNING GLASS AND FUSED SILICA

H. M. Albert Gan**,** K. P. Lim**,** S. K. Chen**,** S.A. Halim,
Z. A. Talib and H. W. Chin
Department of Physics, Faculty of Science, Universiti Putra Malaysia,
43400 UPM Serdang, Selangor, Malaysia
**Corresponding author: albert_ming86@hotmail.com*

ABSTRACT

Polycrystalline $La_{0.67}Ba_{0.33}MnO_3$ (LBMO) thin film deposited on corning glass (LBMOC) and fused silica (LBMO-FS) substrate were studied. X-ray diffraction (XRD) pattern revealed that all samples shown hexagonal structure with space group of R-3c. LBMO structure experienced different lattice strain when deposited on different substrate. Compression along c-axis is observed for lower lattice strain. This distortion shifted the metal-insulator transition temperature (T_p) to higher temperature from below 90K to 92K for LBMO-FS. The maximum peak of %MR also observed near Tp which is at 108K (LBMO-FS). The highest %MR observed for LBMO-C was -29.34%.
Keywords: Magnetoresistance; Thin film

http://journal.masshp.net/wp-content/uploads/Journal/2012/H.%20M.%20Albert%20Gan%2096-101.pdf

REFERENCES

[1] O.J. Gonzalez, G. Bistue, E. Castano, F.J. Gracia, Journal of Magnetism and Magnetic Materials **222** (2000) 199-206
[2] A.K. Kar, *Mater. Sci. Eng., B* **68** (1999) 10-15
[3] A. Singh, *J. Cryst. Growth* **244** (2002) 313-317
[4] K. Yoshii, *Physica B* **329-333** (2003) 791-793
[5] K. Daoudi, *Journal of Superconductivity and Novel Magnetism* **1355-1358** (2010) 23
[6] Dongkyu Jeong and Joonghoe Dho, *IEEE Transactions On Magnetics* **46** (6) 2010 1883-1885
[7] H.Y. Hwang, *Physical Review Letters* **77** (1996) 2041–2044