

Influence of La doping on the properties of SrBa hexagonal ferrites

Niem P.Q., Chau N., Luong N.H., Minh D.L.

Center for Materials Science, National University of Hanoi, 334 Nguyen Trai, Hanoi, Viet Nam; Department of Solid State Physics, National University of Hanoi, 334 Nguyen Trai, Hanoi, Viet Nam

Abstract: A series of SrBa ferrites with composition $(\text{Sr}_{0.75}\text{Ba}_{0.25})_{1-x}(\text{La}_2\text{O}_3)_{x/2} \cdot 5.3\text{Fe}_2\text{O}_3$ has been prepared by the conventional ceramic technology. The size of the crystallites corresponds to that of a single magnetic domain. Doping of La not only enhances the coercivity of these materials but also improves the remanence. The reasons for improving the hard magnetic properties of the investigated ferrites are discussed. ?? 2002 Elsevier Science B.V. All rights reserved.

Author Keywords: Fine particles; Hard magnetic materials; Hexagonal ferrites; Magnetic oxides

Index Keywords: Coercive force; Composition; Crystalline materials; Doping (additives); Lanthanum; Magnetic anisotropy; Magnetic domains; Remanence; Strontium alloys; Octahedral sublattices; Ferrites

Year: 2003

Source title: Physica B: Condensed Matter

Volume: 327

Issue: 4-Feb

Page : 266-269

Cited by: 3

Link: Scopus Link

Correspondence Address: Chau, N.; Center for Materials Science, National University of Hanoi, 334 Nguyen Trai, Hanoi, Viet Nam; email: chau@cms.edu.vn

Editors: Boer F R, Brommer P E, Franse J J M

Conference name: ISAMM 2002

Conference date: 2 October 2002 through 4 October 2002

Conference location: Ha Long Bay

Conference code: 60799

ISSN: 9214526

CODEN: PHYBE

DOI: 10.1016/S0921-4526(02)01758-1

Language of Original Document: English

Abbreviated Source Title: Physica B: Condensed Matter

Document Type: Conference Paper

Source: Scopus

Authors with affiliations:

1. Niem, P.Q., Center for Materials Science, National University of Hanoi, 334 Nguyen Trai, Hanoi, Viet Nam
2. Chau, N., Center for Materials Science, National University of Hanoi, 334 Nguyen Trai, Hanoi, Viet Nam

3. Luong, N.H., Center for Materials Science, National University of Hanoi, 334 Nguyen Trai, Hanoi, Viet Nam
4. Minh, D.L., Department of Solid State Physics, National University of Hanoi, 334 Nguyen Trai, Hanoi, Viet Nam

References:

1. Yamamoto, H., Nagakura, M., Tarada, H., (1990) IEEE Trans. Magn., 26, p. 1144
2. Taguchi, H., Takeishi, T., Suwa, K., Masuzawa, K., Minachi, Y., (1997) J. Phys. IV (France), 7, pp. C1-C311
3. Sagawa, M., Nagate, H., Wantanabe, T., Itatazi, O., (1997) J. Phys. IV (France), 7, pp. C1-C307
4. Dung, N.K., Chau, N., Cong, B.T., Minh, D.L., Phuc, N.X., (1997) J. Phys. IV (France), 7, pp. C1-C313
5. Dung, N.K., Chau, N., Cong, B.T., Minh, D.L., (1999) Proceedings of the Third International Workshop on Materials Science (IWOMS'99), p. 357. , Hanoi, November 2-4
6. Chau, N., (1990) J. Science of the Hanoi University, Phys., 3, p. 51
7. Srig, C.Z., Bonnengerg, D., Hempel, K.A., Karduck, P., Kloor, H.J., Saner, Ch., (1997) J. Phys. (France), 7, pp. C1-C315

Download Full Text: 0857.pdf