

Enhancement of the coercive force with addition of Nb in α -FeSi as-quenched ribbons

Sato Turtelli R., Schonhart M., Sassik H., Grossinger R., Kolbeck C.,
Hong Duong V., Ferrara E.

Institut für Experimentalphysik, Technische Universität Wien, Wiedner Hauptstrasse 8-10, A-1040 Wien,
Austria; Institut für Technische Elektrochemie und Festkörperchemie, Getreidemarkt, Wien, Austria;
Department of Solid State Physics, Vietnam National University, Hanoi, Viet Nam; Istituto Elettrotecnico
Nazionale Galileo Ferraris, Torino, Italy

Abstract: The effect of the addition of Nb in Fe-Si alloys was investigated by measuring the magnetic properties and investigating the microstructure. Nb enhances (about 1.0 times) the coercivity and changes the microstructure as well as the temperature dependence of the coercivity. There exists indication that Nb enters in the lattice. © 2001 Elsevier Science B.V. All rights reserved.

Author Keywords: Coercivity; Soft magnetic materials; Structure

Index Keywords: Coercivities; Fe-Si alloys; Soft magnetics; Structure; Temperature dependence; Magnetic devices; Microstructure; Soft magnetic materials; Coercive force

Year: 2001

Source title: Journal of Magnetism and Magnetic Materials

Volume: 226-230

Issue: PART II

Page : 1498-1500

Cited by: 5

Link: [Scopus Link](#)

Correspondence Address: Sato Turtelli, R.; Institut für Experimentalphysik, Technische Universität Wien, Wiedner Hauptstrasse 8-10, A-1040 Wien, Austria; email: sato@xphys.tuwien.ac.at

ISSN: 3048853

CODEN: JMMMD

Language of Original Document: English

Abbreviated Source Title: Journal of Magnetism and Magnetic Materials

Document Type: Article

Source: Scopus

Authors with affiliations:

1. Sato Turtelli, R., Institut für Experimentalphysik, Technische Universität Wien, Wiedner Hauptstrasse 8-10, A-1040 Wien, Austria
2. Schonhart, M., Institut für Experimentalphysik, Technische Universität Wien, Wiedner Hauptstrasse 8-10, A-1040 Wien, Austria
3. Sassik, H., Institut für Experimentalphysik, Technische Universität Wien, Wiedner Hauptstrasse 8-10, A-1040 Wien, Austria
4. Grossinger, R., Institut für Experimentalphysik, Technische Universität Wien, Wiedner Hauptstrasse 8-10, A-1040 Wien, Austria

Austria

5. Kolbeck, C., Institut für Technische Elektrochemie und Festkörperchemie, Getreidemarkt, Wien, Austria
6. Hong Duong, V., Department of Solid State Physics, Vietnam National University, Hanoi, Viet Nam
7. Ferrara, E., Istituto Elettrotecnico Nazionale Galileo Ferraris, Torino, Italy

References:

1. Hono, K., Ping, D.H., (1999) Mater. Sci. Forum., 307, p. 69
2. Yavari, R., Vázquez, M., Hernando, A., (1994) Nanostructured and Non-Crystalline Materials, p. 35. , Eds
3. Sato Turtelli, R., De Moraes, E., Wiesinger, G., Reichl, Ch., Duong, V.H., Grössinger, R., (1999) J. Magn. Magn. Mater., 205, p. 290
4. Sato Turtelli, R., Duong, V.H., Grössinger, R., Schwetz, M., Ferrara, E., Pillmayr, N., (2000) IEEE Trans. Magn., 36, p. 508
5. Hernando, A., Marin, P., Vázquez, M., Barandiarán, J.M., Herzer, G., (1998) Phys. Rev. B, 58, p. 366