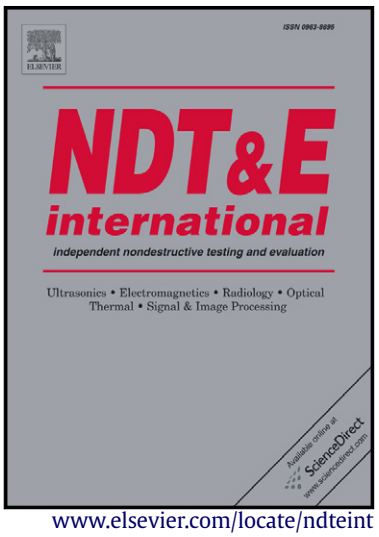

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Lorentz force evaluation: a new approximation method for defect reconstruction

B. Petković[1], J. Haueisen[1], M. Zec[2], R. P. Uhlig[2], H. Brauer[2], M. Ziolkowski[2]

[1]Institute of Biomedical Engineering and Informatics,

Ilmenau University of Technology,

PF 100565, 98684 Ilmenau, Germany

bojana.petkovic@tu-ilmenau.de, jens.haueisen@tu-ilmenau.de

[2]Faculty of Electrical Engineering and Information Technology, Ilmenau University of Technology

PF 100565, 98684 Ilmenau, Germany

mladen.zec@tu-ilmenau.de, robert-peter.uhlig@tu-ilmenau.de,

hartmut.brauer@tu-ilmenau.de, marek.ziolkowski@tu-ilmenau.de

Corresponding author: Prof. Dr. Jens Haueisen, jens.haueisen@tu-ilmenau.de,

Institute of Biomedical Engineering and Informatics,

Ilmenau University of Technology, PF 100565, 98684 Ilmenau, Germany,

Tel.: +49 3677 69-2860, Fax: +49 3677 69-1311

Abstract

We propose a new method for contactless, nondestructive evaluation of moving laminated conductors, the so-called Lorentz Force Evaluation (LFE). The Lorentz force (LF) exerting on a permanent magnet moving relative to the specimen is measured. We propose a novel fast forward calculation of the LF based on a three-dimensional finite volume discretization of the specimen and an approximation of defects using local