Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Magnetoelectric susceptibility dispersion of ferrite - piezoelectric composites V.M. PETROV, M.I. BICHURIN, O.V. RYABKOV, Novgorod State University, Russia, G. SRINIVASAN, Oakland University, Rochester, MI — Ferrite-piezoelectric composites are magnetoelectric (ME) due to the interaction between magnetic and electrical subsystems through elastic deformations. In an external magnetic field, the magnetostriction of the ferrite results in an induced polarization due to piezoelectric effect. There have been several theoretical and experimental studies on ME effect in the composites [1,2]. However, the dispersion characteristics of ME parameters have not been considered in detail. Here we discuss the frequency dependence of ME parameters of nickel ferrite and lead zirconate titanate composites. The frequency spectrum shows two distinct regions: the Maxwell-Wagner relaxation region and dispersion region due to electromechanical (EMR) resonance. The study would facilitate: (i) determination of frequency range for maximum ME interactions and (ii) improve the physical parameters of composite that determine the strength of ME interactions.

1. *M. I. Bichurin, V. M. Petrov, and G. Srinivasan, Phys. Rev. B* ***68****, 054402 (2003).*

2. *V. M. Petrov, M. I. Bichurin, and G. Srinivasan, Tech. Phys. Lett.* ***30****, 341 (2004).*

- supported by grants from the Russian Ministry of Education (02-3.4-278), the Universities of Russia Foundation (UNR 01.01.026) and the National Science Foundation (DMR-0302254)

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Date submitted: 23 Nov 2004 Electronic form version 1.4