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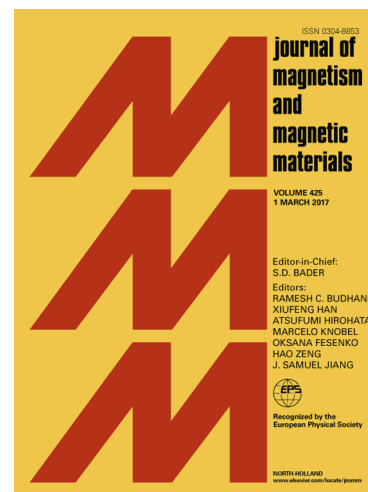
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Effect of magnetic field annealing on the magneto-elastic properties of nanocrystalline NiFe_2O_4

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Abstract

The effect of magnetic-field annealing on the strain sensitivity (q) and saturation magnetostriction (λ_s) of NiFe_2O_4 nanoparticles synthesized by citrate-gel method was investigated. The use of field-annealing resulted in improved magnetoelastic properties at the expense of coercivity. A maximum λ_s of - 40 ppm at 2 kOe, associated with q value of - 3.3 ppm/Oe at 5 Oe was achieved in the field-annealed NiFe_2O_4 .

Keywords: Nanoparticles; Magnetic materials; Magneto-elastic; Magnetostriction; Sintering; Sensors.

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