

RESEARCH ARTICLE |
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Increase in the magnitude of the energy barrier distribution in Ni nanoparticles due to dipolar interactions

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The energy barrier distribution E_b of five samples with different concentrations x of Ni nanoparticles using scaling plots from *ac* magnetic susceptibility data has been determined. The scaling of the imaginary part of the susceptibility $\chi''(\nu, T)$ versus

$T \ln(t/\tau_0)$ remains valid for all samples, which disp...

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shape and size. The mean value $\langle E_b \rangle$ increases appreciably with increasing x , or more appropriately with increasing dipolar interactions between Ni nanoparticles. We argue that such an increase in $\langle E_b \rangle$ constitutes a powerful tool for quality control in magnetic recording media technology where the dipolar interaction plays an important role.

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