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Effect of weak dipolar interaction on the magnetic properties of Ni nanoparticles assembly analyzed with different protocols

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The effect of weak dipolar interactions (DIs) between Ni nanoparticles (NPs) in samples with different Ni concentrations was investigated by performing a detailed characterization of

physical parameters of Ni NP assemblies, it was found that the ac and dc magnetic susceptibility measurements are valuable for identifying the DIs between NPs while hysteresis loops measurements showed to be very insensitive, provided that the strength of the DI field is much smaller than the maximum coercive field. Therefore, the sensitivity of the observed static and dynamical magnetic properties to the effect of weak DI depends on the measurement protocols used.

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