

Article Abstract

Title:	Magnetic structure of Fe-Fe oxide nanoparticles made by electrodeposition
Author(s):	Santosh Kumar ¹ , Samar Layek ² , Brajesh Pandey ² and H.C. Verma ^{2,*}
Address(es):	¹ Department of Physics, B S College, Danapur, Bihar, INDIA. ² Department of Physics, Indian Institute of Technology, Kanpur 208016, INDIA. *Corresponding Author: H. C. Verma, e-mail: hcverma@iitk.ac.in
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Abstract:	Iron/iron-oxide nano particles are synthesized using electrodeposition technique. The particles are well crystalline bcc iron with disordered oxides of iron on the surface. The particles show very small coercivity displaying superparamagnetic behavior of the iron core in magnetization measurement using Vibrating Sample Magnetometer. But the same particles show no trace of supermagnetism or fluctuation of magnetic moments in Mössbauer measurements, showing the role of time scales of measuring equipment in fine particle magnetism.
Keywords:	Iron/iron oxide composite, Magnetic nanoparticles, VSM, Mössbauer spectroscopy.