Fiorani

Surface Effects in Magnetic Nanoparticles

This volume is a selected collection of articles on different approaches to the investigation on surface effects on nanosized magnetic materials,with special emphasis to magnetic nanoparticles. The book is aimed to provide an overview of progress in the understanding of surface properties and surface driven effects in magnetic nanoparticles through recent results of different modelling, simulation and experimental investigations. Its intended audience is Ph.D. students and researchers in materials science. Magnetic nanoparticles have been the subject of continuous and growing interest, from both fundamental and technological points of view, in the last 50 years, since the pionering work of Louis Niel. Nanoparticles are unique physical objects with remarkable magnetic properties which differ greatly from their parent massive materials. They are due to finite size effects of the magnetic core, related to the reduced number of spins cooperatively linked within the particle, and to surface and interface effects, related to the lack of coordination for the surface ions, inducing broken exchange bonds which can result in frustration and spin disorder.

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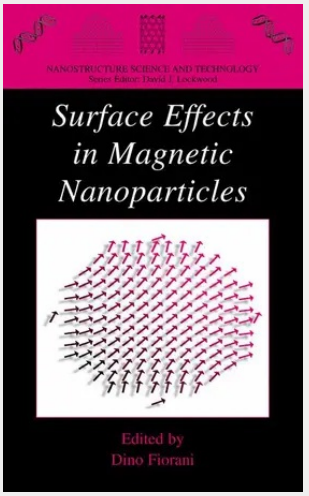

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