

ANISOTROPY AND SIZE DISTRIBUTION EFFECTS
ON THE MAGNETIC PROPERTIES OF A SYSTEM
OF FERROMAGNETIC NANOPARTICLES

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S u m m a r y

Effects of the random orientation of easy magnetization axes and the particle size polydispersity on the thermodynamic properties of a system of noninteracting magnetic nanoparticles have been studied in a three-dimensional model. The results are compared with those obtained in the framework of the classical Stoner–Wohlfarth model. The peak that is observed in the temperature dependence of the system magnetization has been shown to smear, if the orientation randomness and/or the dispersion of the particle size distribution increase.