

**MAGNETIC FIELD-DEPENDENCE STUDY OF THE MAGNETOCALORIC  
PROPERTIES OF A SUPERPARAMAGNETIC NANOPARTICLE SYSTEM: A  
MONTE CARLO SIMULATION**

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The influence of the applied magnetic field on the magnetocaloric properties of a fine magnetic particle system has been studied using a Monte Carlo technique. By simulating the entropy variation of the anisotropy for different applied magnetic fields, we have observed that exists a particular field able to produce a larger entropy change. It is also observed that the blocking temperature diminishes with increasing field, as it is expected.