

First Order Reversal Curve Method for Characterization of Magnetic Nanostructures

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Abstract : One of the key factors limiting the performance of magnetic memory is that the coercivity has a distribution with finite width, and the reversal starts at the weakest link in the distribution. So one must first know the distribution of coercivities in order to learn how to reduce the width of distribution and increase the coercivity field to obtain a system with narrow width. First Order Reversal Curve (FORC) method characterizes a system with hysteresis via the distribution of local coercivities and, in addition, the local interaction field. The method is more versatile than usual conventional major hysteresis loops that give only the statistical behaviour of the magnetic system. The FORC method will be presented and discussed at the conference.

Keywords : magnetic materials, hysteresis, first-order reversal curve method, nanostructures

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