

Characterization of nanomagnets by Advanced Magnetic Force Microscopy

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Since it was first demonstrated in 1987, magnetic force microscopy (MFM) has become a truly wide-spread and commonly used characterization technique that has been applied to a variety of research and industrial applications. Some of the main advantages of the method are its high spatial resolution, ability to work in different environments –including liquids- [1] and applied magnetic fields [2], versatility and simplicity in operation and sample preparation.

The aim of this work is to analyze recent progress in development of MFM, present the current state-of-the-art, and outline the future of this fascinating field [3]. Such emerging aspects as quantitative MFM [4], the accurate interpretation of the MFM images [5], new instrumentation, probe-engineering alternatives [6], and applications of MFM to new materials including nanoparticles, nanowires, and skyrmionic states [7].

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