

Simulations on arrays of magnetic nanowires

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From the known solution for the magnetization of one magnetic nanowire, hysteresis and other related properties are simulated. Nanowires are all equivalent and parallel to each other. Several geometrical distributions are attempted within the plane perpendicular to the wires: random distribution, rectangular lattice, hexagonal lattice. The effect of decoration for the lack of some nanowires in some of these geometries is studied. Whenever possible, comparison to measurements in real magnetic nanowires systems is done (as in the case of hexagonal lattices for arrays grown on alumina^a).

^a M. Vázquez et al. , Physica B (2003) In press.