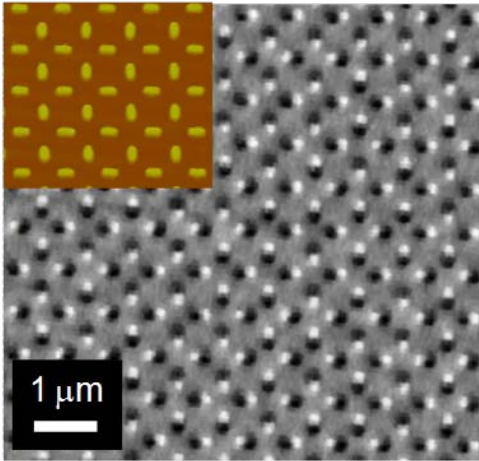


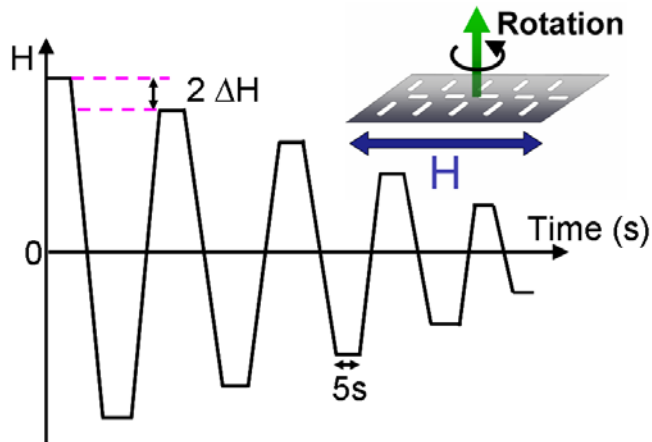
# Demagnetization of Ferromagnetic Island Array

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The Penn State NNIN site was used to fabricate arrays of magnetic nanoislands arranged so that magnetostatic interactions compete and are frustrated.

Magnetic Force Microscope image of a permalloy nanomagnet array. The black and white dots correspond to the south and north poles of the island moments. The Atomic Force Microscope image inset shows the array lattice.



Schematic of the AC demagnetization protocol applied while the sample was rotated in the field. The inset shows the demagnetization setup. Studies of demagnetization are relevant to many other systems in which low energy states are difficult to optimize.

*Ke et al., Physical Review Letters 101, 037205 (2008).*

Penn State Site

Frustrated arrays of magnetic nanoislands can be used as models for other frustrated systems and associated metastable states.