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**Magnetic Triangular Dot and Antidot Arrays from Self-Assembly Lithography** P. PANYAJIRAWUT, M.S. RZCHOWSKI, University of Wisconsin-Madison — Well-ordered two dimensional sub-micron triangular dots arrays of Ni/Co multilayers have been fabricated using the nanosphere lithography technique, with an additional oxygen plasma etch to tailor the size of the polystyrene spheres. Using self-assembled close-packed monolayers of polystyrene spheres as deposition masks, the magnetic heterostructure is deposited through the interstitial areas to form triangular antidot arrays. We perform longitudinal MOKE (Magneto-Optic Kerr Effect) measurement on patterned arrays with a spatial resolution of  $100 \mu\text{m}$ . We present the room temperature magnetization hysteresis loop measurements of Ni/Co multilayers triangular-shaped and antidot arrays. The magnetic measurements reveal that, although the unpatterned multilayer has magnetic anisotropy induced during the sputter deposition, the anisotropy is much reduced after patterning the continuous film. The patterned dot arrays have increased coercivity relative to that of the unpatterned film. This could be from the changes of multidomain formation during magnetization reversal for the patterned dots.

P. Panyajirawut  
University of Wisconsin-Madison

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