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Analysis of Permalloy films prepared on anodized alumina templates — ●SALEH GETLAWI, MICHAEL R KOBLISCHKA, and UWE HARTMANN — Institute of Experimental Physics, Saarland University, D-66123 Saarbrücken, Germany.

The magnetic properties of Permalloy (Py) systems have been extensively studied for thin films due to the important role in many technological applications, e.g., in magnetoresistive-based sensors and devices. Nanopatterned magnetic media are important for various current approaches in magnetoelectronics and magnetic recording. Commercially available anodized alumina templates with pore diameters of 100 nm and 30 nm were employed as substrates for Py thin films. The films were prepared by dc magnetron sputtering. The film thickness was between 7 nm and 30 nm. The obtained antidot patterns were observed by electron and force microscopy. The resulting magnetic domain structures were characterized by means of magnetic force microscopy performed in externally applied magnetic fields. Additionally, the magnetic parameters were characterized by means of SQUID magnetometry.

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