

Investigation of the Magnetic Co Antidot Array Structure on Anodic Porous Alumina

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The surface morphology and the magnetic properties of thin Co films deposited on anodic porous alumina substrates have been studied. The uniform porosity of the alumina substrate prepared by using the two-step anodization process allows the fabrication of Co films with an antidot nanostructure. Also, by varying the deposition temperature, we obtain two distinctive surface morphologies through the thermally-driven coalescence process. Careful measurements of their magnetization curves reveal that the magnetic properties, such as the coercivity and the shape of the hysteresis curve, of the Co films deposited on the porous substrates differ significantly from those of films deposited on non-porous substrates.