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Characterization of Magnetic Anisotropy in Pt/Co/MgO Thin Films NOWSHERWAN SULTAN, Georgia College State University, AASHISH SUBEDI, SAJIB SAHA, University of Nebraska, HASITHA MAHABADUGE, Georgia College State University, SHIREEN ADENWALLAH, University of Nebraska — The anisotropy of a ferromagnet refers to the preferred direction of magnetization. Very thin films of Cobalt (Co) with thicknesses below about a nanometer display perpendicular magnetic anisotropy, a tendency for the magnetization to point out of the plane of the film. However, this is dependent on both the underlying seed layer and the capping overlayer. The anisotropy of Co films capped with MgO on Pt seed layers may be altered with thermal annealing. Here, we investigate changes in magnetic anisotropy as a function of the thickness of Cobalt and the effects of annealing. We find that both lower thicknesses of Cobalt and annealing shift the preferred magnetic anisotropy to the out of plane direction.

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