Abstract Submitted for the MAR07 Meeting of The American Physical Society

Ferromagnetic Resonance Studies in Cobalt Nanodot Arrays MARK EBRAHIM, TETIANA NOSACH, STEVE GREENBAUM, YUHANG REN, Physics & Astronomy, Hunter College, the City University of New York, CHAE-HYUN KIM, HAO ZENG, Physics, University at Buffalo, the State University at New York — We used ferromagnetic resonance technique to investigate magnetic properties of Cobalt nanodot arrays. The resonance field and the line width were measured with varying the angle between the applied field and film plane. The general behavior of the applied field vs. resonance frequency is described using an effective out-of-plane magnetic anisotropy, possibly originating from the surface anisotropy. The anisotropy field inferred from our experiments is $H_A \sim 1$ KOe. Considerable line width broadening occurs when the field aligned axis is rotated orthogonal to the spectrometer field. This corroborates the presence of higher order components of anisotropy field. Furthermore, we obtain gyromagnetic factor g = 2.1, which is consistent with the value determined for the fcc Co grains.

> Mark Ebrahim Physics & Astronomy, Hunter College, the City University of New York

Date submitted: 02 Dec 2006

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