Abstract Submitted
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Experimental Observation of Temperature Variation of Surface Magnetization on a Nanostructured Co/Pt Thin Film[1] CHIDUBEM NWOKOYE, EDWARD DELLA TORRE, LAWRENCE BENNETT, ABID SIDDIQUE, George Washington University, Washington DC 20052, FRANK A. NARDUCCI, Naval Air Systems Command, EO Sensors Division, Patuxent River, MD 20670 — Magneto-optic Kerr effect, MOKE, is used to observe the complex rotation of the polarization plane of linearly polarized incident light reflected from the surface of a magnetic material. The rotation is directly related to the surface magnetization of the material [1]. We report work that extends the experiments in [2] that studied Bose-Einstein Condensation (BEC) of magnons in confined nanostructures. We report the MOKE experimental results of an investigation of surface magnetic remanence and coercivity on a Co/Pt ferromagnetic thin film at low-temperatures. Our findings are explained and are attributed to the BEC of confined magnons in the Co/Pt thin film.

[1] Z. Q. Qiu and S. D. Bader, Surface magneto-optic Kerr effect, Review of Scientific Instruments, 71, 31, 1243-1255 (2000).
[2] Bennett, L.H. and Della Torre, E. (2014) Bose-Einstein Condensation of Confined Magnons in Nanostructures. Journal of Modern Physics, 5, 693-705.

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