

Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Magnetic Properties of Hetrostructured Layered Thin Films Based on Prussian Blue Derivatives¹ J.-H. PARK, M.W. MEISEL, Department of Physics, University of Florida, F. FRYE, D. R. TALHAM, Department of Chemistry, University of Florida — By utilizing a sequential deposition method and controlling the chemical composition of each layer, a series of hetrostructured layered thin films of different Prussian blue derivatives were fabricated. As a starting material, a thin film of 20 cycles of sequentially deposited $\text{Rb}_j\text{Ni}_k[\text{Cr}(\text{CN})_6]_l \cdot n\text{H}_2\text{O}$ film was generated, and the magnetization studies showed a ferromagnetic ordering at $T_C \sim 84$ K and a frequency dependent susceptibility. A similar film of $\text{Rb}_j\text{Co}_k[\text{Fe}(\text{CN})_6]_l \cdot n\text{H}_2\text{O}$ is known to show anisotropic photoinduced magnetism.² A hetrostructured film was also prepared with $\text{Rb}_j\text{Ni}_k[\text{Cr}(\text{CN})_6]_l \cdot n\text{H}_2\text{O}$ and $\text{Rb}_j\text{Co}_k[\text{Fe}(\text{CN})_6]_l \cdot n\text{H}_2\text{O}$ alternately deposited for 10 cycles. The preliminary magneto-optical study of the hetrostructured film shows the presence of magnetic interactions between the layers of the two different Prussian blue derivatives.

¹This work was supported, in part, by the National Science Foundation DMR-0305371 (MWM) and NSF DMR-0543362 (DRT).

²J.-H. Park, E. Čížmár, M. W. Meisel, Y. D. Huh, F. Frye, S. Lane, and D. R. Talham, Appl. Phys. Lett. 85, 3797 (2004).

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Date submitted: 29 Nov 2005

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