

Abstract Submitted
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Anisotropic photo-induced magnetism of a sequentially deposited thin films of $\text{Rb}_j\text{Co}_k[\text{Fe}(\text{CN})_6]_l \cdot n\text{H}_2\text{O}$ ¹ J.-H. PARK, E. ČIŽMÁR², M.W. MEISEL, Department of Physics, University of Florida, F. FRYE, S. LANE, Y.D. HUH³, D.R. TALHAM, Department of Chemistry, University of Florida — Using sequential deposition methods, we have generated two different films of $\text{Rb}_j\text{Co}_k[\text{Fe}(\text{CN})_6]_l \cdot n\text{H}_2\text{O}$ for magneto-optical studies. The synthesis protocol was intentionally varied in order to generate samples with different degrees of surface homogeneity. As a consequence, film **1** possessed a powder-like rough surface, while film **2** was a smooth, quasi-two-dimensional film. Upon irradiation at 5 K with an external magnetic field of 200 G perpendicular to the film surface, the magnetization of film **1** increased, whereas the magnetization of film **2** decreased. This contrasting behavior is consistent with dipolar field model describing the phenomena* and is related to the novel anisotropy of the photoinduced magnetism in film **2**, where the photoinduced magnetization increases or decreases depending on the orientation of the film with respect to the external magnetic field. *J.-H. Park *et al.*, Appl. Phys. Lett. **85**, 3797 (2004).

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²Current address: Institute of Physics, Faculty of Science, P. J. Šafárik University, Košice, Slovakia.

³Current address: Department of Chemistry, Dankook University, Seoul, Korea.

Ju-Hyun Park
Department of Physics, University of Florida

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