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Photoinduced Magnetism in Nanoscale Heterostructures of Prussian Blue Analogues* E.S. KNOWLES, D.M. PAJEROWSKI, M.W. MEISEL, Dept. Phys. and NHMFL, Univ. Florida, M.F. DUMONT, A. GUIET, D.R. TALHAM, Dept. Chem., Univ. Florida, A. GOMEZ, S.W. KYCIA, Dept. Phys., Univ. Guelph — Nanometer-scale cubic heterostructures of two Prussian blue analogues, ferromagnetic $K_jNi_k[Cr(CN)_6]_l{\cdot}nH_2O$ (**A**) with $T_c \sim 70$ K and photo-active ferrimagnetic $Rb_aCo_b[Fe(CN)_6]_c{\cdot}mH_2O$ (**B**) with $T_c \sim 20$ K, have been studied.[1] These samples exhibit a persistent photoinduced decrease in magnetization at temperatures up to $T_c \sim 70$ K of the **A** constituent, resembling results from analogous **ABA** heterostructured films.[2] This net decrease suggests that the photoinduced structural transition in the **B** layer generates a strain-induced decrease in the magnetization of the **A** layer, similar to a pressure-induced decrease previously observed in the pure **A** material.[3] Core-shell and core-shell-shell configurations **AB**, **BA**, **ABA**, and **BAB** have been characterized by TEM, FTIR, XRD, and SQUID magnetometry.

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