

Abstract Submitted  
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**Geometric Structure of Magnetic Domains in CoPd/IrMn Multilayer Films**<sup>1</sup> RUN SU, Physics Department, University of Oregon, SUJOY ROY, Advanced Light Source, Lawrence Berkeley National Laboratory, KEOKI SEU, Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, DANIEL PARKS, Physics Department, University of Oregon, JIMMY KAN, ERIC FULLERTON, Department of Electrical and Computer Engineering, University of California, San Diego, STEPHEN KEVAN, Physics Department, University of Oregon — Using coherent x-ray resonant scattering in a transmission geometry, we collected magnetic scattering signal from CoPd/IrMn exchange biased multilayer films. The incident photon energy was tuned to the Co L3 edge allowing the magnetic domain configuration in Q space to be probed. Rotational autocorrelation functions of the resulting speckle diffraction patterns manifest the local geometric character of domain structure in Q-dependent fashion. These results are compared to microscopic magnetic domain memory probed by cross correlating different patterns. The memory under two different cooling conditions, with saturating field or with zero field was investigated, as well as the dependence of memory on external parameters, such as applied magnetic field and temperature.

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