

Abstract Submitted
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Characterization and Modeling of Off-Specular Neutron Scattering for Analysis of Two Dimensional Ordered Structures¹ CHRISTOPHER METTING, ROBERT BRIBER, University of Maryland, PAUL KIENZLE, BRIAN MARANVILLE, JULIE BORCHERS, JOE DURA, CHUCK MAJKRZAK, NIST Center for Neutron Research — Work is currently being done to expand neutron reflectometry to the off-specular regime for the characterization of thin films with two-dimensional, ordered in-plane structures. The combination of in-plane information obtained from off-specular analysis with the depth-profile that is routinely determined from reflectivity data can produce a detailed description of both the structure and magnetic characteristics of these films. The University of Maryland along with the NIST Center for Neutron Research (NCNR) are developing modeling and fitting software which can easily be integrated into existing reflectivity analysis package such as *Reflpak*,² and will expand the general accessibility of off-specular neutron reflectometry. In this presentation, we show aspects of the current *Python*³ software including in-plane feature representation, model calculations using the Born Approximation, and fits. Also, applications of the modeling capabilities to data from a patterned Au film will be presented.

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²<http://www.ncnr.nist.gov/reflpak/>

³<http://www.python.org/>

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