

Abstract Submitted
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Measuring Exchange Bias in Patterned Films using Ferromagnetic Resonance ROHAN ADUR, INHEE LEE, YURI OBUKHOV¹, The Ohio State University, CHRISTINE HAMANN, JEFFREY MCCORD², IFW Dresden, DENIS V. PELEKHOV, P. CHRIS HAMMEL, The Ohio State University — Exchange bias exploits the exchange interaction at the interface between a ferromagnet and an adjacent antiferromagnet to create a preferred orientation for the ferromagnet. He-ion bombardment has been used to create stripe-patterned films displaying anti-parallel exchange bias in adjacent stripes. As the width of these stripes approaches micron-size, magnetization reversal within individual stripes can be hindered by dipolar fields from magnetic charges at boundaries, making magnetometry measurements difficult to interpret. Here we report Ferromagnetic Resonance measurements of the magnitudes of the two opposing exchange bias fields perpendicular to the stripe axis, the dipolar fields experienced by neighboring stripes, and we quantify the effect of ion irradiation on the saturation magnetization of the Ni₈₁Fe₁₉ films.

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