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Structural Characterization of Spin-Torque Oscillators[1] SARAH C. PARKS, K. LI, A. HAUSER, J. E. THOMPSON, J. CIRALDO, J. EMERICK, J. LUCY, F. Y. YANG, E. JOHNSTON-HALPERIN, Department of Physics, The Ohio State University — The discovery of current-induced magnetodynamics in giant magnetoresistive (GMR) trilayers promises a novel platform for microwave electronics. One of the keys to developing this potential has been the development of nanoscale fabrication techniques, typically resulting in either nanopillar or point-contact geometries. As a result, a considerable technical barrier to further progress is the fidelity of current nanoscale patterning techniques. In an effort to address this challenge, we present the results of development efforts aimed at fabricating prototype point-contact spin torque oscillator (PC-STO) structures with a focused ion beam (FIB). The flexibility of FIB-based nanofabrication allows *in situ* cross sectional imaging of contact structure, and these results are correlated with DC magnetotransport. This fabrication approach enables the rapid generation of structures in arbitrary geometries, and in conjunction with cross-sectional imaging promises increased control of device to device variation and the development of novel PC-STO structures.

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