Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

**Control of Spin-Triplet S/F/S Josephson junctions**[1] E.C. GINGRICH, B.M. NIEDZIELSKI, A.M. CRAMER, W.P. PRATT, JR., NORMAN O. BIRGE, Michigan State University — We present recent work on S/F'/F/F"/S Josephson junctions, where F' is a hard ferromagnet, F is a synthetic antiferromagnet (SAF), and F" is a soft ferromagnet. With the hard and soft ferromagnets magnetizations lying in plane, and the central ferromagnet possessing a non-colinear magnetization with respect to the F' and F" layers, the Josephson junctions experience an enhancement in their critical current due to the generation of Spin-Triplet pair correlations. The direction of the F" layer is predicted to control the state of the junction. We are fabricating such junctions with the goal of controllably switching the state of the junction between the 0 and $\pi$ states. By integrating the junctions into a SQUID device, the state of the junctions can be measured. We will report on our progress.

[1]Work supported in part by the DOE-BES under grant DE-FG-02-06ER46341, and in part by IARPA under SPAWAR contract N66001-12-C-2017.

Eric Gingrich
Michigan State University

Date submitted: 13 Nov 2013 Electronic form version 1.4