Abstract Submitted
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Measurement of the transport spin polarization of Ag/Fe_3O_4 bilayers using point-contact Andreev reflection[1] MICHAEL OSOFSKY, Naval Research Laboraotory, PRIYANGA JAYATHILAKA, CASEY W. MILLER, Department of Physics, University of South Florida — The development of point-contact Andreev reflection (PCAR) has provided a relatively simple method for determining the spin polarization of various ferromagnetic materials. This technique utilizes point contact tunneling from a superconducting tip into a ferromagnet (FM) as a probe of the spin-polarization of the FM. Quantitative information can be extracted from the conductance data through a modified Blonder, Tinkham, Klapwijk (BTK) model of supercurrent conversion at a superconductor-metal interface (Andreev reflection) which includes the spin-polarization of the normal metal. The 100% spin polarized oxide, Fe_3O_4, which is insulating at low temperature, is of great interest for spintronics applications. In order to use PCAR to measure the spin polarization of this system, it is necessary to provide a conducting layer. In this talk we will describe the results of PCAR measurements of Ag/Fe_3O_4 bilayers as a function of Ag thickness.

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Michael Osofsky
Naval Research Laboraotory

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