

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Transition Temperature Shifts in Asymmetric FSF Multilayers¹

PAUL CADDEN-ZIMANSKY, Northwestern University, J. SAMUEL JIANG, JOHN PEARSON, Argonne National Laboratory, YAROSLAW BAZALIY, IBM Almaden Research Center, SAM BADER, Argonne National Laboratory — Ferromagnet-Superconductor-Ferromagnet multilayers, where the superconductor thickness is on the order of the coherence length, exhibit shifts in the superconducting T_c when the relative magnetization of the ferromagnetic layers is changed. However, experimental work has produced shifts orders of magnitude smaller than theoretically predicted. We investigate this discrepancy by examining multilayers where the thickness of the two ferromagnetic layers is varied. Our work indicates that differences between the two superconductor-ferromagnet interfaces may play a role in explaining the discrepancy, and demonstrates how the use of hard vs. soft ferromagnets can effect these devices.

¹Supported by DOE, Office of Science, under contract No. DE-AC02-06CH11357

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Date submitted: 20 Nov 2006

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