

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Rich Behavior of the Critical Currents of Magnetically-Doped Superconducting Films in Applied Magnetic Fields¹ JEFFREY WASSERMAN, NINA MARKOVIC, Johns Hopkins University — Films of MoGe were grown with varying dopant levels of cobalt contamination. Critical currents were measured in the presence of magnetic fields applied parallel to the film plane and perpendicular to current flow. Critical current curves reveal significantly different behavior depending on the polarity of the current with respect to the applied field. At sufficiently-high dopant concentrations, the critical current increases with increasing magnetic field intensity for one polarity of current. We will discuss these results in terms of pair-breaking effects of magnetic fields and magnetic impurities.

¹This work was supported in part by the National Science Foundation under grants DMR-0547834 and DMR-0520491 (MRSEC), and the Alfred P. Sloan Foundation under grant BR-4380, and ACS PRF # 42952-G10.

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Date submitted: 04 Dec 2007

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