

Abstract Submitted  
for the MAR10 Meeting of  
The American Physical Society

**The hall effect as a probe of fluctuating superconductivity in disordered two-dimensional films** NICHOLAS BREZNAY, MIHIR TENDULKAR, AHARON KAPITULNIK, Stanford University, KAREN MICHAELI, ALEXANDER FINKEL'STEIN, The Weizmann Institute of Science — Magnetotransport effects have long been used to investigate order parameter fluctuations and vortex dynamics in both high-Tc and conventional superconductors. We will describe recent experimental studies of the fluctuation-induced Hall effect in amorphous superconducting films of tantalum nitride and indium oxide. Our measurements are consistent with theoretical analyses of Gaussian fluctuation contributions to the Hall signal. This approach, which has shown success in recent studies of the fluctuation-induced Nernst effect, may yield an independent measure of the superconducting coupling strength.

Nicholas Breznay  
Stanford University

Date submitted: 20 Nov 2009

Electronic form version 1.4