

Abstract Submitted  
for the MAR13 Meeting of  
The American Physical Society

**Simulations of Noise in the 2D XY Spin Model**<sup>1</sup> CHUNTAI SHI, SUNGHO HAN, CLARE C. YU, Department of Physics and Astronomy, University of California Irvine — Experiments implicate spins on the surface of metals as the source of flux and inductance noise in SQUIDS. There is experimental evidence that interactions between these surface spins cannot be ignored. As a candidate model of the surface spins, we present Monte Carlo simulations of the classical 2D XY spin model on a square lattice. We investigate the magnetization noise as a function of frequency and temperature. Finite size effects are considered through studies of different size systems.

<sup>1</sup>This work is supported by Army Research Office Grant No. W911NF-10-1-0494.

Chuntai Shi  
Department of Physics and Astronomy, University of California Irvine

Date submitted: 07 Nov 2012

Electronic form version 1.4