

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Magnetic anisotropy of CoO/Fe films grown on vicinal Ag(001)

J. PARK, J. WU, UC-Berkeley, A. SCHOOL, A. DORAN, Lawrence Berkeley Nat. Lab., E. ARENHOLZ, W. KIM¹, CHANYONG HWANG, KRISS, Z. Q. QIU, UC-Berkeley, BERKELEY TEAM, LBNL TEAM, KRISS TEAM — CoO/Fe films were grown epitaxially on Ag(001) vicinal surfaces with the steps parallel to Ag [110] axis. Magnetic hysteresis loop measurement at room temperature shows that as the CoO thickness increases to establish the antiferromagnetic order, it introduces a magnetic anisotropy to the Fe ferromagnetic layer to enhance the Co coercivity. However, we find that the step-induced uniaxial magnetic anisotropy in the Fe film is not affected by the CoO antiferromagnetic order. This result shows that the CoO only imprints a 4-fold magnetic anisotropy to the Fe film.

¹KRISS

Z. Q. Qiu
UC-Berkeley

Date submitted: 19 Nov 2009

Electronic form version 1.4