

Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Surface Magnetism of Fe overlayers on Pt(110) CHANYONG HWANG, Korea Research Institute of Standards and Science, J.S. PARK, Y.P. LEE, Department of Physics and q-Psi, Hanyang University — Fe overlayers on Pt(110) surface have been studied using surface magneto-optic Kerr effect(SMOKE). Using the Pt(110) substrate is based on the possibility of making Fe nano wires at low coverage(0.5ML) since this surface shows missing row (2x1) reconstruction. If the Fe atoms are filled in this missing row, mono-atomic Fe wires can be formed though one Fe atom is surrounded by three neighboring Pt atoms. At room temperature (growth and measurement), the SMOKE signal starts to show up at the coverage of 1.0ML only at longitudinal geometry. When we grow at low temperature, weak polar signal has been observed down to 0.5ML with different LEED pattern. Annealing process after the 1ML deposition of Fe can leads to the formation of antiferromagnet so that further deposition of Fe layers can be exchange biased upon field cooling. We will show this interesting exchange bias in monolayer limit and the possible origin of this exchange bias in our system.

Chanyong Hwang
Korea Research Institute of Standards & Science

Date submitted: 21 Mar 2013

Electronic form version 1.4