Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Fabrication of GaAs spin injection devices Y. JUNG, Physics department, Oho State University, O. KWON, V. P. BHALLAMUDI, Physics department, Oho State University, R. YU, Physics department, Oho State University, D. V. PELEKHOV, Physics department, Oho State University, S. A. RINGEL, Electrical and Computer Engineering, Oho State University, P. R. BERGER, Electrical and Computer Engineering, Oho State University, P. C. HAMMEL, Physics department, Oho State University — We report on the progress towards fabrication of a ferromaget-GaInP(or AlGaAs)-GaAs devices. The devices are designed for use in future experiments to electrically detect, and spatially map spin accumulation in GaAs using a high sensitivity magnetic force microscope. The device consists of n-GaAs channel capped with a 3-5nm thick highly doped GaInP or AlGaAs layer. Both the GaAs channel and GaInP(or AlGaAs) layers are MBE grown. The ferromagnetic injector and detector are deposited ex-situ over the GaInP (or AlGaAs) barrier layer. We will discuss the electrical characteristics and transport behavior of the devices.

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Date submitted: 30 Nov 2005 Electronic form version 1.4