

Abstract Submitted  
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**Magnetic Properties of Ferromagnetic (Ga,Mn)As Grown on (511) GaAs Substrates** CHONG XIE, Y. J. CHO, R. CHAKARVORTY, Y. Y. ZHOU, Z. GE, W. L. LIM, X. LIU, J. K. FURDYNA, M. DOBROWOLSKA, Department of Physics, University of Notre Dame, Notre Dame, IN 46556 — Ferromagnetic (Ga,Mn)As films were successfully grown on SI GaAs (511)A and (511)B substrates by LT-MBE. We have performed SQUID, magnetotransport, ferromagnetic resonance(FMR), and Magneto-Optic Kerr Effect (MOKE) measurements to characterize the magnetic properties of these samples. A conspicuous feature observed on these samples is an asymmetric shift of the Hall resistance caused by the superposition of the Planar Hall Effect (PHE) and the Anomalous Hall Effect (AHE), in agreement with our earlier studies of (Ga,Mn)As grown on vicinal GaAs (001) substrates. This asymmetric shift is a direct manifestation of the strength of the magnetocrystalline anisotropy, which confines the magnetization to the preferred crystalline plane, thus resulting in a non-zero component of the magnetization normal to the (Ga,Mn)As layer. The results are also compared with the magnetic properties measured in (Ga,Mn)As films grown on GaAs substrates with other orientations, e.g., (001) and (311). Supported by NSF Grant DMR02-10519.

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