

Abstract Submitted  
for the MAR07 Meeting of  
The American Physical Society

**Structure and morphology of (111) textured Au/Co/Au trilayers grown on glass by MBE.**<sup>1</sup> DIVINE KUMAH, Applied Physics Department, University of Michigan, J.R. SKUZA, Physics and Astronomy Department, University of Toledo, A. CEBOLLADA, C. CLEVARO, J.M. GARCIA MARTIN, Instituto de Microelectrónica de Madrid-IMM , R.A. LUKASZEW, Physics and Astronomy Department, University of Toledo, ROY CLARKE, Applied Physics Program, University of Michigan — A complete structural and morphological study as a function of Co thickness is presented in a series of Au/Co/Au trilayers grown by MBE on glass substrates. A combined AFM, RHEED, SAXRR and XRD characterization allows determining the optimum deposition conditions that lead to the fabrication of highly textured, flat and continuous layered structures. Development of (111) texture upon annealing the Au layer grown on glass is followed in situ using RHEED. High crystalline quality is confirmed by XRD measurements. A simultaneous in-plane and out-of-plane Co lattice expansion is observed for the thinnest Co layers, converging to bulk values for thickest films. The roughness of the Co layer extracted from the SAXRR data is similar to that of the Au buffer layer, indicative of a conformal growth.

<sup>1</sup>Work supported by Spanish Ministerio de Educación y Ciencia, US Department of Energy and National Science Foundation.

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Date submitted: 05 Dec 2006

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