Glancing Angle Deposition of Ag on Si(111)7x7

A.N. COBBLAH, S.T. HAYDEN, YIYAO CHEN, J. KREMENAK, M.W. GRAMLICH, P.F. MICELI, U. Missouri — Ag(111) films were vapor-deposited in ultra-high vacuum on Si(111)7x7 substrates. The angle of deposition was varied from normal incidence to 80 degrees and the films were studied by x-ray reflectivity. It is found that, even for very thin films, the film roughness increased dramatically with the angle of deposition. This poster will highlight experimental results as well as the development of a UHV chamber that enables a laboratory x-ray source to monitor low angle reflectivity during film growth. Funding is acknowledged from the Ronald E. McNair Post-baccalaureate Achievement Program and NSF DMR-0706278. Some measurements were performed on the 6IDC beam line, supported by the US-DOE (through Ames Lab, W-7405-Eng-82), at the Advanced Photon Source (US-DOE, W-31-109-Eng-38) located at Argonne National Laboratory.