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**Experimental evidence for trapped volumes in thin Ag films on Si(111)-7x7** S.T. HAYDEN, YIYAO CHEN, M.W. GRAMLICH, R.S. GARI, G.M. KING, P.F. MICELI, University of Missouri Department of Physics and Astronomy — Thin films of Ag on Si(111)-7x7 were prepared in UHV at room temperature by vapor depositing Ag at a glancing angle with respect to the surface normal. Comparing x-ray reflectivity and atomic force microscopy (AFM) measurements, it is found that both techniques give the same height distribution at the surface. However, for a given deposition angle, x-ray reflectivity measurements reveal that there is a significant portion of trapped volume that goes undetected by the AFM. Also, by increasing the deposition angle from normal to glancing incidence angles, both the roughness and the maximum height distribution profile increase. Experimental evidence for trapped volumes in Ag/Si(111)-7x7 will be discussed. Research funding is supported by NSF DMR-0706278. The Advanced Photon Source Sector 6 beamline at Argonne National Laboratory is supported by the US-DOE through Ames Lab under Contract No. W-7405-Eng-82.

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