

Abstract Submitted
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Metastability of Bi Films Mediated by Surface Kinetics¹ GUANG BIAN, TOM MILLER, TAI-CHANG CHIANG, University of Illinois at Urbana-Champaign, CNL TEAM — We report on a structural phase transformation of bismuth films deposited on Si(111)-(7X7). Films with thicknesses 20 to ~100 angstroms, upon annealing, first order into a metastable pseudocubic phase and then transform into a stable rhombohedral phase. The two phases have very different electronic band structures as measured by angle-resolved photoemission spectroscopy. The formation of the metastable phase over a wide thickness range can be attributed to a surface nucleation mechanism.

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