

Abstract Submitted
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Narrowing of Terrace-width Distributions During Growth on Vicinals¹ AJMI BH. HAMOUDA, Univ. of Maryland, College Park (UM) & Univ. Monastir, Tunisia, A. PIMPINELLI, UM & U.B.P.Clermont-2 & Science Attache, French Consulate, Houston , T.L. EINSTEIN, UM — Using kinetic Monte Carlo simulations for a generic minimal SOS model of vicinal surfaces, we compute the terrace-width distributions (TWDs) as a function of incident flux during homoepitaxial growth. We show that the distribution narrows markedly,² as though there were a flux-dependent repulsion between steps, until the step picture fails at high flux. Using a Fokker-Planck approach³, we analyze the evolution and saturation of this narrowing. We compare with a 1D model⁴ and with our simulations for narrowing due to an Ehrlich-Schwoebel barrier.

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²Ajmi BH. Hamouda, Ph.D. thesis, U.B.P.Clermont 2

³A. BH. Hamouda, A. Pimpinelli, & TLE, Surface Sci. 602 (2008) 3569

⁴H.-J. Gossman et al., J. Appl. Phys. 67 (1990) 745

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