

Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Selective growth of nano-scaled islands¹ A.L. CHIN, M.H. LEE, H.C. WANG, F.K. MEN, Department of Physics, National Chung Cheng University, Chia-Yi 621, Taiwan ROC — To grow nano-scaled structures in designated regions on surfaces is essential to the success of nanotechnology. Here we demonstrate a scheme offering the opportunity of selectively growing nano-scaled islands in selected regions of a surface. By depositing sub-monolayer of Au onto a nominally flat Si(111) surface, we constructed a surface consisting of two structurally different domains: the (52)/Au and the (77) domain. We then deposited up to 0.3 monolayers of Co at room temperature followed by annealing at an elevated temperature. The resultant surface structure shows, only on (52)/Au domains, the growth of islands with narrow size distribution.

¹Supported by NSC, Taiwan ROC

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Date submitted: 01 Dec 2004

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