

Abstract Submitted
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Step-mediated island growth: a new ripening mechanism¹ A.L. CHIN, H.C. KAN, C.R. LEE, F.K. MEN, Department of Physics, National Chung Cheng University, Chia-Yi, Taiwan, Republic of China — Two types of islands have grown on a Co-deposited Si(111)-(5×2)/Au vicinal surface: islands grow on terraces (terrace islands) and on top of a step (step islands). The terrace islands follow the classical Ostwald ripening process. For step islands, their density remains unchanged as the average size grows to a limit of $\sim 650 \text{ nm}^3$. Furthermore, an ordering of step islands gives a ratio of ~ 0.25 between the average island width and island-island separation. We attribute this unique growth to the vertical lattice mismatch created by the height difference between two halves of an island separated by a step.

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Fu-Kwo Men
Department of Physics, National Chung Cheng University

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