

Abstract Submitted
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Growth of uniform metal nanowires on stepped Si surface M.K.

KIM, J.Y BAIK, I.-K SONG, BK21 Physics Research Division, Center for Nanotubes and Nanostructured Composites, Sunkyunkwan University, J.H NAM, BK21 Physics Research Division, Institutes of Basic Science, SungKyunKwan University, C.-Y PARK, BK21 Physics Research Division, Center for Nanotubes and Nanostructured Composites, SKKU Advanced Institute of Technology, SungKyunKwan University, J.R AHN¹, BK21 Physics Research Division, Institutes of Basic Science, SungKyunKwan University — We investigated Indium (In) nanowires on the stepped Si surface by scanning tunneling microscopy (STM). The stepped surfaces have attracted much attention because their structure can be a useful template for the growth of nanowires. We used the stepped Si(557) surface; its clean structure is composed of a half-unit cell of the Si(111)7x7 surface and a triple bunched step. The In nanowires are found to form on the triple bunched steps uniformly along the step edges with a width of 1 nm at low coverage. At higher In coverage, another nanowire is noticed to grow proximate to the nanowire grown at lower In coverage. We will present the detailed STM images of the In nanowires and will describe their geometric structures.

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