

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Enhanced growth instability of strained film on curved substrate¹

YU ZHANG, HANGYAO WANG, FENG LIU — We report linear stability analysis of a strained film on a curved surface. We show that the growth of a strained film is inherently less stable on a curved substrate than on a flat substrate. For small surface undulation, the lowest strain energy state is for the film surface to adopt the same wavelength as the substrate surface in an anti-phase configuration. Our analysis provides some qualitative understanding of directed self-assembly of quantum dots on patterned substrates.

¹DOE (DE-Fg-03ER45875)

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Date submitted: 20 Nov 2006

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