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Thermal Stability of Shape Transition in Strained Nano-Islands
CRISTIANO NISOLI, Los Alamos National Laboratory, DOUGLAS ABRAHAMS, Oxford University, TURAB LOOKMAN, AVADH SAXENA, Los Alamos National Laboratory — Two dimensional Stranski-Krastanow strained islands are known to undergo a shape anisotropy transition as they grow in size, finally evolving toward nanowires. We investigate thermal stability of this process and find a phase transition both in temperature and, in simple cases, in growth. While our results are general, they can explain recent data on Erbium Silicide growth on vicinal Si surface.

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