

Abstract Submitted
for the DFD08 Meeting of
The American Physical Society

Self-assembly of diblock copolymer blends on an air-water interface HSIANG-WEI LU, Harvey Mudd College/MIT, ANETTE HOSOI, Massachusetts Institute of Technology, SHENDA BAKER, Harvey Mudd College — Spreading diblock copolymers on an air-water interface produces nanoscale features via self assembly. As a predictive tool for the size and morphology of the observed features, we develop a phase field model which includes the effects of polymer vitrification and diffusion in the self-assembly of polymer blends. Stability analysis indicates that the characteristic feature dimensions can be tuned by adjusting the blend composition and the initial surface concentration. In addition, simulations suggest an internal structure within the regularly spaced nanoscale dots that can provide additional functionality.

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Date submitted: 29 Jul 2008

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