

Abstract Submitted
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Dewetting and Phase Separation in Thin Film Polymer Blends

NIGEL CLARKE, Durham University — We present a dynamic theory for simultaneous phase separation and dewetting in ultra thin-film binary mixtures with free surfaces. The model assumes that phase separation only occurs in the plane of the film, thus reducing a three dimensional problem to two dimensions. If the height of the film is orders of magnitude less than the typical lateral dimensions of phase separation and dewetting then such an approximation is highly desirable from a computational viewpoint. We show some preliminary computational results, illustrating how coupling between the two processes can significantly affect pattern formation.

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