

Abstract Submitted
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Multi-block copolymers in thin films. PANAGIOTIS MANIADIS, EDWARD KOBER, TURAB LOOKMAN, Los Alamos National Laboratory, Los Alamos NM — We study the behavior of an $\{AB\}_n$ multi-block copolymer confined to a thin film, using self consistent field theory (SCFT) methods. Due to the breaking of symmetry in the direction of confinement, the propagators do not obey the usual diffusion equation. We derive the diffusion equation which correctly describes the confined polymer system and find that it differs from the original in an area which is approximately 3 times the Kuhn length of the polymer, close to the surface of the film. We use the modified diffusion equation to study the structure of the confined polymer.

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