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**Dynamical SCFT Simulations of Solvent Annealed Thin Films**
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— Block copolymer thin films are ideal candidates for a broad range of technologies including rejection layers for ultrafiltration membranes, proton-exchange membranes in solar cells, optically active coatings, and lithographic masks for bit patterning storage media. Optimizing the performance of these materials often hinges on tuning the orientation and long-range order of the film's internal nanostructure. In response, solvent annealing techniques have been developed for their promise to afford additional flexibility in tuning thin film morphology, but pronounced processing history dependence and a dizzying parameter space have resulted in slow progress towards developing clear design rules for solvent annealing systems. In this talk, we will report recent theoretical progress in understanding the self assembly dynamics relevant to solvent-annealed and solution-cast block copolymer films. Emphasis will be placed on evaporation-induced ordering trends in both the slow and fast drying regimes for cylinder-forming block copolymers from initially ordered and disordered films, along with the role solvent selectivity plays in the ordering dynamics.

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