

Abstract Submitted
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Evolution of non-equilibrium entanglement networks in spincast thin polymer films KARI DALNOKI-VERESS, JOSHUA MCGRAW, PAUL FOWLER, Department of Physics & Astronomy and the Brockhouse Institute for Materials Research, McMaster University, Hamilton, ON, Canada, L8S 4M1 — Measuring the rheology of non-equilibrium thin polymer films has received significant attention recently. Experiments are typically performed on thin polymer films that inherit their structure from spin coating. While the results of several rheological experiments paint a clear picture, details of molecular configurations in spincast polymer films are still unknown. Here we present the results of crazing measurements which demonstrate that the effective entanglement density of thin polymer films changes as a function of annealing toward a stable equilibrium value. The effective entanglement density plateaus with a time scale on the same order as the bulk reptation time.

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