

Abstract Submitted  
for the MAR08 Meeting of  
The American Physical Society

**Measurements of the Onsager coefficient in a phase-separating polymer blend** AMISH PATEL, NITASH BALSARA, U. C. Berkeley — Phase separation in a polymer blend of critical concentration was studied using time-resolved Small Angle Neutron Scattering (SANS). To start off, the blend was homogenized by taking it well into the 1-phase region of the phase diagram. It was then quenched into the 2-phase region by using a rapid change in pressure. Since, the sample enters the two-phase region at the critical point, it is expected to phase separate by spinodal decomposition. Hence, the time dependent SANS intensity was fit to the Cahn-Hilliard-Cook equation for systems undergoing spinodal decomposition. The fit parameters were then used to calculate the non-local Onsager coefficient at several different pressures. The functional form of the Onsager coefficient, as a function of the wave-vector, was compared to that predicted by theory. Finally, the molecular parameters that go into the theory were extracted.

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Date submitted: 29 Nov 2007

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