Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Concentration Fluctuations in Polymer Solutions under Extensional Flow MICHAEL VILLET, MICHAEL CROMER, GLENN FREDRICKSON, GARY LEAL, University of California, Santa Barbara, ROMAN STEPANYAN, MARKUS BULTERS, DSM Ahead, Geleen, Netherlands — Polymer solutions under flow are known to exhibit stress-concentration coupling that can anisotropically amplify concentration fluctuations. This phenomenon has been extensively studied for shear flow, but is less well understood for extensional flows. Using a two-fluid model, we study concentration fluctuation amplification in polymer solutions under a variety of extensional flows, including mixed shear and extension.

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Date submitted: 11 Nov 2011 Electronic form version 1.4