

"Stress and dielectric relaxation of polymers under fast shear flow"

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We have studied the stress and dielectric relaxation of entangled polymer under fast shear flow by molecular dynamics (MD) and slip-link simulations. Both relaxations were accelerated by the flow, in agreement with the expectation of the CCR theory. Experimentally, however, virtually no acceleration was found in the dielectric relaxation under shear flow, and the origin of the disagreement is still unknown. Moreover, MD simulation for short (unentangled) chains also showed acceleration of relaxation by flow, indicating that the CCR is not the only origin of the acceleration.