

Abstract Submitted
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Fluctuations in the aging regime of a polymer glass¹ AZITA PARSAEIAN, HORACIO E. CASTILLO, Department of Physics and Astronomy, Ohio University — We perform numerical simulations to investigate the fluctuations in the aging regime of a system of polymers which are interacting via the Lennard-Jones potential. We characterize how the fluctuations evolve by studying (i) probability distributions of local observables such as individual particle displacements Δx and intermediate scattering functions C_r associated with small regions and (ii) dynamic correlation functions such as the four-point density correlation $g_4(\mathbf{r}, t, t_w)$. We find that, similar to small molecule glasses, the probability distributions of local observables approximately collapse when the global two-time correlation $C_{\text{global}}(t, t_w)$ is held fixed. We test for universality by comparing the probability distributions in the small molecule glass with those in the polymer glass.

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