

Abstract Submitted
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Dynamics of polymer nanoparticles and chains. KIRIL STRELETZKY, JOHN MCKENNA, GERRY HILLIER, Cleveland State University — We present a Dynamic Light Scattering study of transport properties of the polymer chains and nanoparticles made out of the same starting solution. The spectra of both systems are highly non-exponential requiring a spectral time moment analysis. Our findings indicate the existence of several modes of relaxation in both systems. The comparison of the mean relaxation rates and diffusion coefficients of the different modes in two systems under good solvent conditions will be reported. Temperature sensitivity of the polymer nanoparticles and its possible applications in pharmaceutical, coatings, and petroleum industries will also be discussed.

Kiril Strelitzky
Cleveland State University

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