

Abstract Submitted
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Phase Behavior of Charged Nanoparticle-Polyelectrolyte Solution

GUNJA PANDAV, VENKAT GANESAN, University of Texas at Austin — Interactions between charged nanoparticles suspended in a polyelectrolyte solution are studied using single chain in mean field simulations. We consider a model in which the particles and polymers carry a fixed charge in presence of counterions and salt. The effect of particle charge, particle volume fraction, particle size, and polymer density on the phase behavior of the system is examined. In addition, we discuss the effective interactions between nanoparticles arising due to multibody effects and compare it with two-body potentials calculated using a mean-field approach.

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