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Effects of the range and strength of interparticle attraction on gelation TONI PEREZ, JAMES GUNTON, Lehigh University, AMIT CHAKRABARTI, Kansas State University — Range and strength of interparticle attraction determine whether a complex assembly of particles will be ordered or disordered. For very short range interactions, the system seems to get trapped into a gel state as a result of arrested spinodal decomposition. On the other limit, for long range interactions, spinodal decomposition leads to phase separation. The nature of the gel transition at low volume fraction is still not well understood in between these two limits. Here, we study the dynamics of the gel transition at low volume fraction as a function of the range and strength of the attractive interparticle interaction. We perform Brownian dynamics simulations and study how gelation is affected as the range and strength of interparticle interaction are varied.

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