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**Confinement Effects on Polymer Dynamics in Nanocomposites**[1]
RAMANAN KRISHNAMOORTI, University of Houston, TIRTHA CHATTERJEE, UC Santa Barbara, MANSOUR ABDULBAKI, University of Houston, MADHUSUDAN TYAGI, NIST — The dynamics of polymers in systems with dispersed nanoparticles is studied using inelastic and quasi-elastic neutron scattering. In this study, the role of confinement between nanoparticles and the role of nanoparticle topology are examined by considering dispersions with spherical C60 buckeyballs, rod-like single walled carbon nanotubes and plate-like graphene. The polymers examined here include bisphenol A epicholorohydrin and bisphenol F epicholorohydrin. Significant changes in the dynamics of the polymer are observed and these will be examined in the context of mode coupling theories.

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