

Dynamics and Thermodynamics of Nanofilled Polymers

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We have focused on understanding the dynamics of polymer nanocomposites (as embodied in their glass transition behavior) and their structure (as characterized by their chain structure). In both cases we critically compare the behavior obtained to that in the case of polymer thin films. In many cases, we find a strong analogy between the two cases; the situations where this analogy breaks down point to the importance of particle curvature effects in the case of nanocomposites.