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**Interfacial Dynamics of Polymers and Influence on Viscosity in Polymer Nanocomposites** GERALD SCHNEIDER, Louisiana State Univ - Baton Rouge — Nanocomposites based on polymer melts and nanoparticles are important for applications, such as enhanced barrier properties. Certainly, novel effects may emerge due to the high specific surface area. If polymers can adsorb the polymer dynamics may be significantly changed. Mostly these are associated with a slowing down of the polymer motion or a layer where the segments are immobilized. We used neutron spin echo and time-of-flight spectroscopy to track these changes. We found the segments are highly mobile, but additionally identified considerable changes depending on the polymer, the constituents and the interaction strength. The talk reports recent results and identifies potential impact to macroscopic properties, such as the viscosity measured by rheology.

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