Polymer local dynamics by QENS: experiments, MD and theory

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Abstract

Experimental quasielastic neutron scattering data on a number of polymeric systems will be compared to the results of theoretical calculations and MD simulations. The QENS measurements carried out on poly(dimethyl siloxane), polyethylene, polypropylene and polyisobutylene highlight the effect of chemical structure on local chain dynamics. Using recent results from theoretical calculations and/or MD simulations, the effect of chain flexibility and fast local motions on the observed QENS dynamics will be discussed.