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Correlation between static and dynamic heterogenities in polymer mixtures ROLAND FALLER, FLORENCE PON, QI SUN, UC Davis — Computer simulations cannot only address average properties of the system under study but also the distribution over any observable of interest. Here we are using this advantage to study mixtures of polystyrene and polyisoprene by atomistic molecular dynamics and calculate correlation times for all segments in the system. We then identify fast and slow segments. We are able to correlate the segment speed with the local neighborhood and obtain that fast segments have a surplus of the faster component in their neighborhood and vice versa [1]. We are additionally studying other influences on the dynamics such as end effects. As these studies are performed on a mixture with strongly different glass transition temperatures, we are able to study the behavior in a a temperature range where one constituent would be a glass whereas the other one a melt. [1] R. Faller Macromolecules 37 (2004) 1095

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