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Glass

transition temperatures in nanoscale equilibrated polystyrene droplets
CHAD DALEY, JAMES FORREST, University of Waterloo — Measurements of thin film glass transition temperature (T_g) in thin polymer films are only made possible through the metastability of the film with respect to dewetting. Even in the melt state, such samples are not in thermal equilibrium, and resulting T_g values may not be conclusive. In this talk we discuss recent measurements of T_g for equilibrium polystyrene droplets on silicon substrates as measured through their thermal expansion with true non-contact atomic force microscopy. These measurements show promise to not only definitively address the continuing controversy surrounding thin film T_g measurements, but are also readily applied to study non-polymeric glass formers.

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