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**Evan M Gildernew\*** (nmx363@mocs.utc.edu) and **Eleni Panagiotou**  
(eleni-pangiotou@utc.edu). *Molecular Dynamic Study of Polymer Chains to Viscoelastic Response*. Preliminary report.

We used topological methods to measure the entanglement of varying molecular weight polymer melts alongside the development of molecular dynamic simulations to predict the polymer melt system's mechanical response to uni-axial elongational shear flow. The melts studied show characterization consistent with the transition region with some crossover into the rubbery plateau region and the polymer melt systems simulated were topologically analyzed for entanglement characterization, using the Gauss linking integral. (Received August 18, 2020)