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**Shear Crystallization Studies in Polymer/Carbon Nanotube Dispersions** MARILYN MINUS, SATISH KUMAR, School of Polymer, Textile, and Fiber Engineering, Georgia Institute of Technology, Atlanta, GA. — Shear crystallization studies have been carried out in polymer/carbon nanotube (CNT) dispersions. In these studies shear-flow forces in polymer solutions as well as the unique nucleation ability of CNT (i.e. long, rod-like, nanoscale structure) are utilized to promote extended-chain crystallization and orientation of the polymer on the surface of the CNT. Polymer and CNT concentration, dissolution temperature, solution crystallization temperature, and speed of shearing were varied to determine the best conditions to promote extended-chain polymer crystallization on the CNT surface. Single-wall, few-wall, and multi-wall carbon nanotubes were used in this study to investigate whether the size/diameter of the nanotube (i.e. diameter range: 1-30 nm), play a role in crystal growth for the polymer. These results are presented in this work in an effort to understand the influence of CNT on polymer crystal growth.

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