

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Probing the crystallisation of polyethylene confined to a system of droplets JESSICA CARVALHO, KARI DALNOKI-VERESS, Department of Physics & Astronomy and the Brockhouse Institute for Materials Research, McMaster University — We present results on the crystallisation of polyethylene (PE) confined to a system of dewetted droplets. With the droplet system, we have access to a large ensemble of small, isolated volumes of crystallisable material, allowing for a direct measurement of nucleation rates. In our previous work with dewetted droplets of poly(ethylene oxide), we were able to demonstrate that long chains showed the same nucleation behaviour as chains roughly an order of magnitude shorter[1]. In contrast to this, it has been shown that for systems of n-alkanes molecular weight plays a role[2]. By investigating a wide range in molecular weight, the dependence of nucleation on molecular weight will be addressed in PE. [1] M.V. Massa et al., Phys. Rev. Lett. **97**, 247802 (2006). [2] H. Kraack et al., Macromolecules, **33**, 6174 (2000).

Kari Dalnoki-Veress
Department of Physics & Astronomy and the Brockhouse Institute
for Materials Research, McMaster University

Date submitted: 02 Dec 2007

Electronic form version 1.4