

Abstract Submitted  
for the MAR06 Meeting of  
The American Physical Society

**Ultra-Small Angle Neutron Scattering Study of Polyethylene Crystallization from Solution**<sup>1</sup> HOWARD WANG, NARAYAN DAS, KAIKUN YANG, Department of Materials Science and Engineering, Michigan Technological University, Houghton, MI 49931 — Crystallization of polyethylene in deuterated toluene solution has been investigated using time-resolved ultra small angle neutron scattering for the first time. Both slit-smearred and de-smearred scattering spectra were analyzed using Guiniers law to obtain time-dependent structural information. The average lateral dimension of crystallites grows linearly with time, while the degree of crystallinity increases as square of time. The results suggest that the number density of nuclei remains constant during the crystal growth.

<sup>1</sup>This work is supported by an NSF Career Award

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Date submitted: 30 Nov 2005

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