

Abstract Submitted
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Chain Folding in Polymer Crystals Detected by Solid-state NMR¹ TOSHIKAZU MIYOSHI, The University of Akron — Polymer crystallization induces transitions from random coils in the melt states to bilayer structures consisting of chain-folded crystals and disordered amorphous regions. Although the concept of chain folding is well recognized, there have been continuous debates about adjacent re-entry fractions of polymer chains crystallized at different physical conditions. To understand chain-folding structures in complex systems, spatial selectivity to access short-range polymer-polymer interactions is necessary. In this talk, we will propose a novel approach using solid-state NMR and selective isotope labeling for characterizing chain-folding of polymer chains. Spatial selectivity in double quantum NMR reveals adjacent re-entry fractions in the bulk crystals at different conditions.

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Toshikazu Miyoshi
The University of Akron

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