

Abstract Submitted
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Early Stage Crystallization in Isotactic Polypropylene: Influence of Nanofillers RAHMI OZISIK, XIAOFENG CHEN, Rensselaer Polytechnic Institute, SANAT KUMAR, Columbia University, PHILLIP CHOI, University of Alberta — Formation of helices in isotactic polypropylene was studied using on-lattice, coarse-grained, Metropolis Monte Carlo simulations. Influence of polymer-particle interaction and particle size on polymer crystallization was studied by inserting isotropic particles into neat iPP melt. Results indicated that the surface of isotropic particle exerts a strong orientation effect on helices and their ordering. In addition, isotropic particle shows a length scale effect on the formation of long helical structures at low temperatures, i.e., below melting temperature.

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