

Abstract Submitted
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Polymer Crystallization in Nanoparticles¹ AURORA NOGALES, JING CUI, Instituto de estructura de la Materia, IEM-CSIC, DANIEL MARTINEZ-TONG, Donostia International Physics Center (DIPC) Materials Physics Center (CFM), TIBERIO A EZQUERRA, Instituto de estructura de la Materia, IEM-CSIC — Crystallizable polymers confined into nanodroplets and nanoparticles can serve as starting point in order to prepare nanocrystals with specific functionalities. In addition, They can help to better understand the effect of confinement on the mechanisms of crystal nucleation and growth. As compared to other confining geometries, nanoparticles offer the advantage of providing a 3D confinement, without any preferential direction that may act as template. Also, nanoparticles offer a versatile geometry that enables the possibility of tuning the interaction with the confinement media. An example of this can be the differences among free standing particles or those embedded either in soft or in rigid media. In this contribution we present results on the crystallization of selected conducting and ferroelectric polymers in nanoparticles prepared by miniemulsion and flash precipitation. Results suggest that the polymers crystallized in these geometries present metastable configuration that enhance the presence of mesophases not present in the bulk. The implication of this effect on the physical properties will be discussed.

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