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Phase coherence in LDOT diblock copolymer films KWANWOO SHIN, Gwangju Institute of Science and Technology, JUNHAN CHO, Dankook University, KWANGSOO CHO, Kyungpook National University, JI HYUK KIM, Gwangju Institute of Science and Technology, SUSHIL K. SATIJA, National Institute of Standards and Technology, DU YEOL RYU, Yonsei University, JIN KON KIM, Pohang University of Science and Technology — Theoretical and experimental studies of the thin films of LDOT (lower disorder-order transition) diblock copolymers have been studied. The recently developed compressible Landau analysis has been applied to the copolymer films to interpret phase-coherent decaying profiles and other thermodynamic aspects of the LDOT films. Specific interactions and finite compressibility were considered in a unified way in this compressible Landau approach. The linearized and then nonlinear solutions of the minimized free energy functional under proper constraints were discussed. The neutron reflectivity and the surface topography measurements on the copolymer films were reported here to compare them with the theoretical analysis.

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