

Abstract Submitted
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Enhancement of X-ray Reflectometry for the Depth-Profiling of Polymer Films using Polymeric Substrates¹ MARIA I. LYGERAKI, HARIS RETSOS², SPIROS H. ANASTASIADIS³, Foundation for Research and Rechnology - Hellas, Heraklion Crete, Greece, CHRIS TOPRAKCIOGLU, ALEKOS A. VRADIS, University of Patras, Rion Patras, Greece, YVES GALLOT, Institut Charles Sadron, Strasbourg, France — The investigation of the internal structure of thin polymer films on conventional substrates by X-Ray reflectometry is restrained due to the high electron densities of these substrates compared to those of most polymers. A methodology is proposed and applied to circumvent this problem by utilizing polymeric substrates of appropriate thickness and roughness, which can be reproducibly deposited on the standard substrates in order to render them invisible to the X-rays. The resolution of the X-ray reflectometry is significantly enhanced as illustrated utilizing thin films of PS-b-PMMA diblock copolymers of various thicknesses. The proposed methodology will allow the study of internal polymer interfaces using in- house diffractometers/reflectometers.

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