

GRAZING-INCIDENCE DIFFRACTION APPLIED AS A CROSSCUTTING TOOL IN THE NANOBIO REGIME

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The detailed structure of thin films is a critical determinant in a broad range of useful physical processes. Both in-plane, interfacial structure and depth-dependent features can be significant depending on the process of interest. Grazing-incidence diffraction has been employed as a crosscutting technique to characterize these structural aspects of, for instance, films of (a) mono- and multilayer tobacco mosaic virus organized via convective assembly; (b) spin-coated and annealed poly-3-hexylthiophene and composites; (c) spin-coated and annealed mesogenic metallophthalocyanines and related derivatives; and (d) inorganic species deposited via a variety of processes. We will highlight our method development in this area and those aspects of the results which provide insight into important structure/property correlations.