

Microsymposium

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Grazing-Transmission Scattering for Measuring Nano-structured Thin Films

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We describe a new scattering geometry which can be used to quantify three-dimensional nanoscale order in thin films: Grazing-Transmission Small-Angle X-ray Scattering (GTSAXS). This technique collects sub-horizon scattering which exits from the edge of the sample, and does not suffer from the large refraction-distortions and multiple-scattering terms that complicate GISAXS data analysis. We also present a new modelling formalism applicable to superlattices of nano-objects, where lattice symmetry and nano-object size/shape can be arbitrarily defined.

Keywords: GISAXS, nanostructures, superlattices