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High-Resolution X-Ray Scattering: From Thin Films to Lateral Nanostructures

Second Edition

This book presents a detailed description of high-resolution x-ray scattering methods suitable for the investigation of the real structure of single-crystalline layers and multilayers, including structure defects in the layers and at the interfaces. Particular attention is devoted to lateral structures in semiconductors and semiconductor multilayers, such as quantum wires and quantum dots. Both the theoretical background and the application of the methods are discussed. The second edition is extended to deal with lateral surface nanostructures such as gratings and dots, new examples for measuring layer thickness, lattice mismatch, and surface/interface roughness. This book will be an invaluable source for graduate students and scientists.

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