

1. Record Nr.	UNINA9910299480203321
Autore	Wang Gwo-Ching
Titolo	RHEED transmission mode and pole figures : thin film and nanostructure texture analysis // Gwo-Ching Wang, Toh-Ming Lu
Pubbl/distr/stampa	New York : , : Springer, , 2014
ISBN	1-4614-9287-4
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (xii, 227 pages) : illustrations (some color)
Collana	Gale eBooks
Disciplina	620.11
Soggetti	Crystal growth Molecular beams
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographies.
Nota di contenuto	Introduction -- Crystal Lattices and Reciprocal Lattices -- Kinematic Scattering of Waves and Diffraction Conditions -- RHEED Reflection Mode -- X-Ray Diffraction -- RHEED Transmission Mode and RHEED Pole Figure -- Instrumentation for RHEED Pole Figure -- Origins of Texture Formation -- Techniques to Control Thin Film Textures -- Applications and Future Direction -- Appendix A: Operational Procedures for RHEED Pole Figure -- Appendix B: RHEED Pattern Simulations. .
Sommario/riassunto	This unique book covers the fundamental principle of electron diffraction, basic instrumentation of RHEED, definitions of textures in thin films and nanostructures, mechanisms and control of texture formation, and examples of RHEED transmission mode measurements of texture and texture evolution of thin films and nanostructures. Also presented is a new application of RHEED in the transmission mode called RHEED pole figure technique that can be used to monitor the texture evolution in thin film growth and nanostructures and is not limited to single crystal epitaxial film growth. Details of the construction of RHEED pole figures and the interpretation of observed pole figures are presented. Materials covered include metals, semiconductors, and thin insulators. This book also: Presents a new application of RHEED in the transmission mode Introduces a variety of textures from metals, semiconductors, compound semiconductors, and their characteristics in RHEED pole figures Provides examples of RHEED

measurements of texture and texture evolution, construction of RHEED pole figures, and interpretation of observed pole figures RHEED Transmission Mode and Pole Figures: Thin Film and Nanostructure Texture Analysis is ideal for researchers in materials science and engineering and nanotechnology. .
