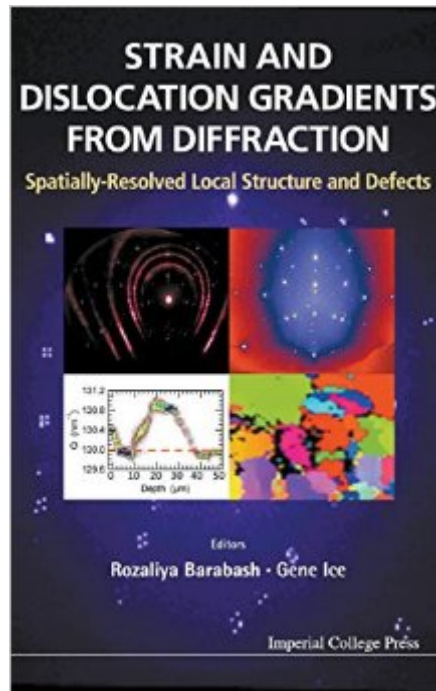


The book was found

Strain And Dislocation Gradients From Diffraction: Spatially-Resolved Local Structure And Defects



Synopsis

This book highlights emerging diffraction studies of strain and dislocation gradients with mesoscale resolution, which is currently a focus of research at laboratories around the world. While ensemble-average diffraction techniques are mature, grain and subgrain level measurements needed to understand real materials are just emerging. In order to understand the diffraction signature of different defects, it is necessary to understand the distortions created by the defects and the corresponding changes in the reciprocal space of the non-ideal crystals. Starting with a review of defect classifications based on their displacement fields, this book then provides connections between different dislocation arrangements, including geometrically necessary and statistically stored dislocations, and other common defects and the corresponding changes in the reciprocal space and diffraction patterns. Subsequent chapters provide an overview of microdiffraction techniques developed during the last decade to extract information about strain and dislocation gradients. X-ray microdiffraction is a particularly exciting application compared with alternative probes of local crystalline structure, orientation and defect density, because it is inherently non-destructive and penetrating. Readership: Researchers in X-ray science, materials science, applied physics, and mechanical engineering.

Book Information

Hardcover: 400 pages

Publisher: Imperial College Press (February 12, 2014)

Language: English

ISBN-10: 1908979623

ISBN-13: 978-1908979629

Product Dimensions: 6 x 1.1 x 9 inches

Shipping Weight: 2 pounds (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #3,030,285 in Books (See Top 100 in Books) #111 in Books > Science & Math > Experiments, Instruments & Measurement > Electron Microscopes & Microscopy #2007 in Books > Science & Math > Physics > Nuclear Physics #4293 in Books > Textbooks > Engineering > Mechanical Engineering

[Download to continue reading...](#)

Strain and Dislocation Gradients from Diffraction: Spatially-Resolved Local Structure and Defects
New Patient's Guide to Osteochondral Defects: Learn about Osteochondral Defects in the Ankle

and Knee Powder Diffraction: The Rietveld Method and the Two Stage Method to Determine and Refine Crystal Structures from Powder Diffraction Data The Chicago Homegrown Cookbook: Local Food, Local Restaurants, Local Recipes (Homegrown Cookbooks) Rsi: Repetitive Strain Injury : Repetitive Strain Injury, Carpal Tunnel Syndrome and Other Office Numbers (Thorsons Health) Structure of Materials: An Introduction to Crystallography, Diffraction and Symmetry Improvisational Negotiation: A Mediator's Stories of Conflict About Love, Money, Anger -- and the Strategies That Resolved Them Dark Matter, Missing Planets and New Comets: Paradoxes Resolved, Origins Illuminated Local Anaesthesia and Pain Control in Dental Practice: Anaesthesia, Local, and Pain Control in Dental Practice LES and DNS of Ignition Process and Complex Structure Flames with Local Extinction (AIP Conference Proceedings / Mathematical and Statistical Physics) Cystic Fibrosis: Diagnosis and Protocols, Volume I: Approaches to Study and Correct CFTR Defects (Methods in Molecular Biology) Stools and Bottles: A Study of Character Defects--31 Daily Meditations Drop the Rock: Removing Character Defects - Steps Six and Seven Home And Condo Defects Before We Are Born: Essentials of Embryology and Birth Defects, 9e Minerals and Rocks: Exercises in Crystal and Mineral Chemistry, Crystallography, X-ray Powder Diffraction, Mineral and Rock Identification, and Ore Mineralogy Transmission Electron Microscopy: Diffraction, Imaging, and Spectrometry Fundamentals of Powder Diffraction and Structural Characterization of Materials, Second Edition Principles of Optics: Electromagnetic Theory of Propagation, Interference and Diffraction of Light A Practical Guide for the Preparation of Specimens for X-Ray Fluorescence and X-Ray Diffraction Analysis

[Dmca](#)