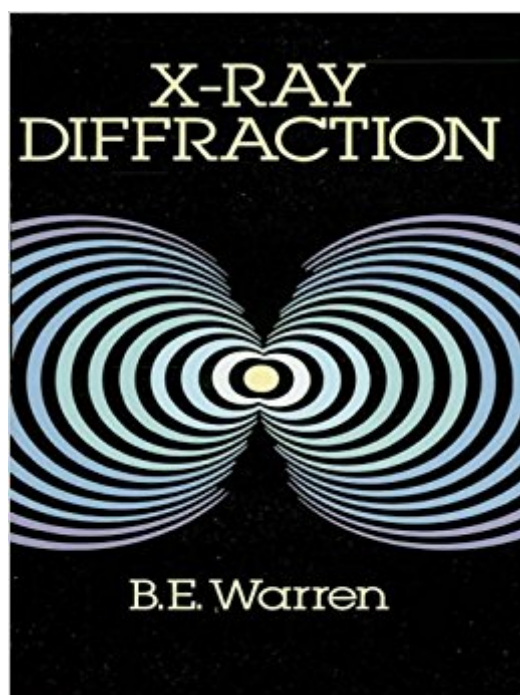


The book was found

X-Ray Diffraction (Dover Books On Physics)



Synopsis

Basic diffraction theory has numerous important applications in solid-state physics and physical metallurgy, and this graduate-level text is the ideal introduction to the fundamentals of the discipline. Development is rigorous (throughout the book, the treatment is carried far enough to relate to experimentally observable quantities) and stress is placed on modern applications to nonstructural problems such as temperature vibration effects, order-disorder phenomena, crystal imperfections, the structure of amorphous materials, and the diffraction of x-rays in perfect crystals. Carefully selected problems have been included at the end of each chapter to help the student test his or her grasp of the material. Professor Warren, a recognized authority on the use of x-rays to probe the structure of matter, is Professor Emeritus of Physics, Massachusetts Institute of Technology.

Book Information

File Size: 35400 KB

Print Length: 400 pages

Publisher: Dover Publications; Reprint edition (May 23, 2012)

Publication Date: April 25, 2012

Sold by:Â Digital Services LLC

Language: English

ISBN-10: 0486663175

ISBN-13: 978-0486663173

ASIN: B00A3YELSK

Text-to-Speech: Enabled

X-Ray: Not Enabled

Word Wise: Not Enabled

Lending: Enabled

Enhanced Typesetting: Enabled

Best Sellers Rank: #423,884 Paid in Kindle Store (See Top 100 Paid in Kindle Store) #6 inÂ Kindle Store > Kindle eBooks > Nonfiction > Science > Chemistry > Crystallography #54 inÂ Books > Science & Math > Chemistry > Crystallography #1168 inÂ Kindle Store > Kindle eBooks > Nonfiction > Science > Physics

Customer Reviews

Warren is the expert on X-ray diffraction, no doubt about it. However, this book is not intended for neophytes or people who are new to the field of x-ray diffraction. He immediately jumps into the

Ewald Sphere for deriving scattering, and works with a lot of vector calculus, so if you're not familiar with XRD most of this book will go over your head. He does a good job of describing how different deviations from Bragg's law - such as a sample displacement, finite particle size, and crystal strain - play a role in changing the diffraction pattern and how the different two-theta dependence, such as the sine dependence on stress, come about. But again, you'll be working with a lot of vector calculus to get there. If you have a good understanding of XRD and want to learn the math and physics behind the technique, this book is a good supplement for your understanding. It would be a good choice for graduate students or people with PhDs.

This book is a valuable reference for its discussions of imperfect crystals, including peak broadening from nanocrystals; temperature vibration effects that might factor into in-situ XRD; and especially the discussion on order-disorder. Even its discussion of Fourier methods (pre-PC) and diffraction theory are useful. At less than \$20, anyone routinely using XRD to analyze inorganic samples should buy this book. After losing my old copy, I felt compelled to immediately buy a new copy. This book functions poorly as an introductory text to diffraction or crystallography and is out-dated with respect to discussing instrumentation. This book is of limited use regarding soft-matter samples.

As it may be clear from the one-line summary given above...it is quite difficult to evaluate this book. I personally like this book, however, I would not recommend anyone to try to learn x-ray diffraction by reading it. This book elegantly shows the theory behind a broad range of experimental observations one can accomplish using x-ray diffraction by going into the broader theory of scattering. Hence it is basically a book on scattering as applied to x-rays. The use of space group determination and Structure determination are given only a superficial attention, which I think must be discussed in detail in a book on x-ray diffraction. However, the chapter on x-ray studies on order-disorder is outstanding (it is Prof. Warren's personal area of interest). In other words, this is a rather advanced and quasi-theoretical treatment of a very applied method indeed. Therefore, in my opinion, it is of limited use to the solid state science community in general. However, it is a very nicely written book (though quite abstract) hence I'd rather give 4 stars instead of 3. Get this book if you really have a very specialized interest in x-ray diffraction...otherwise you can live without it.

Even if a little old, covers all the basics in an excellent manner. The math, while sometimes involved is not that complex and is very educational. The plus side of it being several decades old is that everything is presented in a rather fundamental and easy to grasp way. One does need to spend a

little time going through the equations, but it definitely makes understanding the matter easier.

There are some typos.

Filled with value at a bargain price, Warren's fundamental work continues to impress for its elegance and the advances that it brought forth. Still not as used as it should be for nano-crystalline metals and ceramics for example. For experienced and willing to understand advanced-diffractionists.

Very classic XRD book. The book condition is good.

This book must be on your shelf if you are interested x ray diffraction. got this book for a class but i kept it because it was so helpful

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

X-Ray Diffraction (Dover Books on Physics) X-Ray Diffraction: In Crystals, Imperfect Crystals, and Amorphous Bodies (Dover Books on Physics) Minerals and Rocks: Exercises in Crystal and Mineral Chemistry, Crystallography, X-ray Powder Diffraction, Mineral and Rock Identification, and Ore Mineralogy X-Ray Diffraction by Disordered Lamellar Structures: Theory and Applications to Microdivided Silicates and Carbons X-Ray Crystallography: An Introduction to the Investigation of Crystals by Their Diffraction of Monochromatic X-Radiation X Ray Diffraction of Ions in Aqueous Solns X-Ray Diffraction and the Identification and Analysis of Clay Minerals High Energy Electron Diffraction and Microscopy (Monographs on the Physics and Chemistry of Materials) Brother Ray: Ray Charles' Own Story The Best of Bob & Ray: Excerpts from the Bob & Ray Public Radio Show (Volume One: 4 Cassettes, 4 Hours (64 Selections)) Ray of New (Ray #6) Physics for Kids : Electricity and Magnetism - Physics 7th Grade | Children's Physics Books READING ORDER: TAMI HOAG: BOOKS LIST OF THE BITTER SEASON, KOVAC/LISKA BOOKS, HENNESSY BOOKS, QUAID HORSES, DOUCET BOOKS, DEER LAKE BOOKS, ELENA ESTES BOOKS, OAK KNOLL BOOKS BY TAMI HOAG Thermodynamics and the Kinetic Theory of Gases: Volume 3 of Pauli Lectures on Physics (Dover Books on Physics) Physics of Shock Waves and High-Temperature Hydrodynamic Phenomena (Dover Books on Physics) Boundary and Eigenvalue Problems in Mathematical Physics (Dover Books on Physics) Mathematics of Classical and Quantum Physics (Dover Books on Physics) Introduction to Light: The Physics of Light, Vision, and Color (Dover Books on Physics) Methods of Quantum Field Theory in Statistical Physics (Dover Books on

Physics) Physics of Waves (Dover Books on Physics)

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)