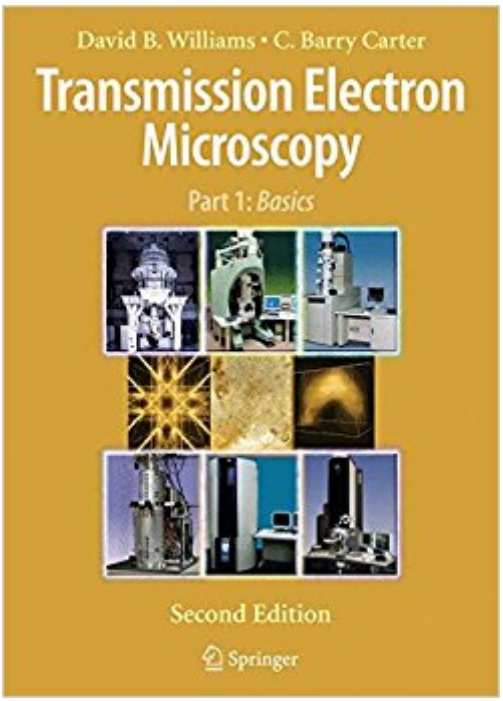
Transmission Electron Microscopy: A Textbook For Materials Science (4 Vol Set)



Synopsis

This profusely illustrated text on Transmission Electron Microscopy provides the necessary instructions for successful hands-on application of this versatile materials characterization technique. The new edition also includes an extensive collection of questions for the student, providing approximately 800 self-assessment questions and over 400 questions suitable for homework assignment.

Book Information

Paperback: 775 pages

Publisher: Springer; 2nd edition (August 5, 2009)

Language: English

ISBN-10: 0387765026

ISBN-13: 978-0387765020

Product Dimensions: 8.3 x 2.2 x 11 inches

Shipping Weight: 6.5 pounds (View shipping rates and policies)

Average Customer Review: 4.3 out of 5 stars 36 customer reviews

Best Sellers Rank: #274,680 in Books (See Top 100 in Books) #3 inÃ Â Books > Science & Math > Experiments, Instruments & Measurement > Electron Microscopes & Microscopy #11 inÃ Â Books > Engineering & Transportation > Engineering > Materials & Material Science > Testing #29 inÃ Â Books > Science & Math > Technology > Nanotechnology

Customer Reviews

From the reviews of the second edition:Ã¢â ¬Å“This book is intended to be used as a textbook for material science students studying the theory, operation, and application of the TEM. It is truly a book so thoughtfully written that Ã¢â ¬Â¦ it will provide a solid foundation for those studying material science. It is richly illustrated with full-color figures and illustrations throughout the text. Ã¢â ¬Â¦ There are an abundant number of references at the end of each chapter for further study Ã¢â ¬Â¦. This is an outstanding book Ã¢â ¬Â¦.Ã¢â ¬Â• (IEEE Electrical Insulation Magazine, Vol. 26 (4), July/August, 2010)Ã¢â ¬Å“D.B. Williams and C.B. Carter have now prepared a new edition, splendidly produced by Springer with colour throughout. Ã¢â ¬Â¦ This textbook is magnificent, written in a very readable style, immensely knowledgeable, drawing attention to difficulties and occasionally to unsolved problems. Any microscopist who has mastered Ã¢â ¬Â¦ the book relevant to his projects will be well armed for battle. Ã¢â ¬Â¦ Buy this book!Ã¢â ¬Â• (P. W. Hawkes, Ultramicroscopy, Vol. 110, 2010)

This groundbreaking text has been established as the market leader throughout the world. Now profusely illustrated with full color figures and diagrams throughout the text, Transmission Electron Microscopy: A Textbook for Materials Science, Second Edition, provides the necessary insightÃ Â and guidance for successful hands-on application of this versatile andÃ Â powerfulÃ Â materials characterization technique. For this first new edition in 12 years, many sections have been completely rewritten with all others revised and updated. The new edition also includes an extensive collection of questions for the student, providing approximately 800Ã Â for self-assessment and over 400 that are suitable for homework assignment. Key Features: Undisputed market leader, now completely revised and updated Ideal for use as a teaching text at the advanced undergraduate and graduate levels and as a hands-on reference for materials scientists Explains why a particular technique should be used and how a specific concept can be put into practice Nearly 700 figures and diagrams, most in full color Praise for the first edition: `The best textbook for this audience available.' Ã¢â ¬â œ American Scientist "...highly readable, and an extremely valuable text for all users of the TEM at every level. Treat yourself to a copy!" Ã¢â ¬â œ Microscopy and Microanalysis `This book is written in such a comprehensive manner that it is understandable to all people who are trained in physical science and it will be useful both for the expert as well as the student.' Ã¢â ¬â œ Micron `The book answers nearly any question - be it instrumental, practical, or theoretical - either directly or with an appropriate reference...This book provides a basic, clear-cut presentation of how transmission electron microscopes should be used and of how this depends specifically on one's specific undergoing project.' Ã¢â ¬â œ MRS Bulletin `The only complete text now available which includes all the remarkable advances made in the field of TEM in the past 30-40 years....The authors can be proud of an enormous task, very well done.' Ã¢â ¬â œ from the Foreword by Professor Gareth Thomas, University of California, Berkeley

Transmission Electron Microscopy: A Textbook for Materials Science (4 Vol set)It is like the Bible for TEM. Great book lots of diagrams and pictures greatest book for TEM

am i being scammed? -- ask yourself this before purchasing this product. the item description claims that this is a 4 vol. set, but the package i received contained only the first book. very disappointed, and will do everything in my power to rectify this and receive a full refund, or the remaining texts.

The item includes 4 volumes for a total of ~800 pages. It gives the basic knowledges on TEM, spectrometry, diffraction, imaging, and also on the instrument itself. However the chapter are not going too much in details about the physics, but addresses clearly what is important to keep in mind when using a TEM. Therefore it is a must have book for any user.I recommend to complete with other books like those from RF Egerton, especially for any EELS related topic that includes the thickness measurement of a sample. Other works from I. Pozsgai may also help in simplifying the mass-thickness method.

This set of textbooks include almost every aspect and technique in TEM and related fields. Readers from different levels can benefit by referencing the relevant part according to their specific interests/questions. However, from my point of view, some widely applied techniques/methodologies, e.g. for the for the High resolution imaging processing, the basics of image filtering, the geometric phase analysis (GPA) should be included. However, it is no doubt this set is the best and most comprehensive TEM reference book up to date.

If this is recommended for your TEM class, buy it. Or at least rent it from the library. This is a very well written set of textbooks.

If you are ever going to touch an electron microscope - especially a transmission type electron microscope - make sure that you have this book readily available to you. You do not necessarily need the new edition. The contents are pretty much the same. However - while the first edition was easy to read, the second is even more so. The occasional colour images and a modernized language really do help. Also make sure to get the paperback edition, which is conveniently divided into four books.

As described, what more is there to write about a class required textbook?

This is one of the best text books I've ever used. It's very readable, & does a good job of presenting difficult material. I love the references at the beginning of each book detailing what different acronyms mean, and what different variables may stand for. They also have good 'how-to' sections of the book for specific processes in the TEM, like how to make an SADP, and so on. They really wrote this with the student in mind.

Electron microscopy for beginners: Easy course for understanding and doing electron microscopy (Electron microscopy in Science) Transmission Electron Microscopy: A Textbook for Materials Science (4 Vol set) Transmission Electron Microscopy: A Textbook for Materials Science Transmission Electron Microscopy: A Textbook for Materials Science:2nd (Second) edition Electron Diffraction in the Transmission Electron Microscope (Microscopy Handbooks) Scanning Electron Microscopy, X-Ray Microanalysis, and Analytical Electron Microscopy: A Laboratory Workbook Transmission Electron Microscopy and Diffractometry of Materials (Graduate Texts in Physics) Introduction to Conventional Transmission Electron Microscopy (Cambridge Solid State Science Series) Scanning and Transmission Electron Microscopy: An Introduction Scanning Transmission Electron Microscopy: Imaging and Analysis Scanning Transmission Electron Microscopy of Nanomaterials: Basics of Imaging Analysis Transmission Electron Microscopy: Physics of Image Formation and Microanalysis (Springer Series in Optical Sciences,) Sample Preparation Handbook for Transmission Electron Microscopy: Techniques Scanning Transmission Electron Microscopy of Nanomaterials : Basics of Imaging and Analysis Biological Specimen Preparation for Transmission Electron Microscopy (Princeton Legacy Library) Electron Microprobe Analysis and Scanning Electron Microscopy in Geology Liquid Cell Electron Microscopy (Advances in Microscopy and Microanalysis) Scanning Electron Microscopy: Applications to Materials and Device Science High Energy Electron Diffraction and Microscopy (Monographs on the Physics and Chemistry of Materials) Scanning Electron Microscopy and X-Ray Microanalysis: A Text for Biologists, Materials Scientists, and Geologists