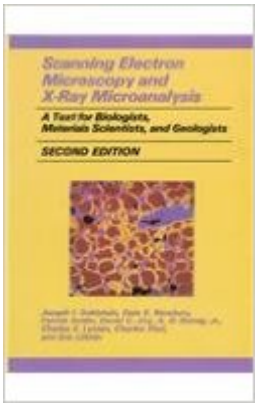
Scanning Electron Microscopy And X-Ray Microanalysis: A Text For Biologists, Materials Scientists, And Geologists



Synopsis

In the last decade, since the publication of the first edition of Scanning Electron Microscopy and X-ray Microanalysis, there has been a great expansion in the capabilities of the basic SEM and EPMA. HighÂ- resolution imaging has been developed with the aid of an extensive range of field emission gun (FEG) microscopes. The magnification ranges of these instruments now overlap those of the transmission electron microscope. Low-voltage microscopy using the FEG now allows for the observation of noncoated samples. In addition, advances in the developÂ- ment of x-ray wavelength and energy dispersive spectrometers allow for the measurement of low-energy x-rays, particularly from the light elements (B, C, N, 0). In the area of x-ray microanalysis, great advances have been made, particularly with the "phi rho z" [lj)(pz)] technique for solid samples, and with other quantitation methods for thin films, particles, rough surfaces, and the light elements. In addition, x-ray imaging has advanced from the conventional technique of "dot mapping" to the method of quantitative compositional imaging. Beyond this, new software has allowed the development of much more meaningful displays for both imaging and quantitative analysis results and the capability for integrating the data to obtain specific information such as precipitate size, chemical analysis in designated areas or along specific directions, and local chemical inhomogeneities.

Book Information

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Customer Reviews

This book, although not the newest textbook on the market, is THE textbook to have if you are looking for the history, theory or applications of electron microscopy and x-ray microanalysis. Well

written, thorough and packed full of well-designed diagrams illustrating the principles described. I've used this textbook in classroom and laboratory settings with excellent results. Looking forward to the next edition!

Goldstein et al have written a book that serves as an excellent introduction to the SEM, and is also a formidable reference. When I took SEM at NC State University, it was taught from this book. Between our professor and this text, I learned the ins and outs of the SEM, and I keep the book within arms reach whenever I'm at work.Goldstein covers everything from the basics of operation, through image formation, sample prep, usage in particular fields of study -- everything!If you get one SEM book, get this one.

This is an excellent textbook for graduate students majoring in Materials Science. The text is easy to read, and accompanied by plenty of photographs and schematics, is easy to understand. Covers almost every aspect of SEM and X-ray micro-analysis e.g. underlying science, technology, and practical use. Each chapter begins at a basic level and gradually develops the subject to intricate detail, and depending on the level of study one may skip chapters or part of a chapter.

This was an excellent book (5 stars) but has been superseded by the 3rd edition. Buy it only for historical interest.

It was a privilege to learn the subjects of SEM and TEM from the the author of this book himself (David Joy). This is an excellent book which starts from the basics and it depends on the researcher how deep he wanna go. The book provides in depth analysis as well if required. Great resource book.

Scanning Electron Microscopy and X-Ray Microanalysis: A Text for Biologists, Materials Scientists, and Geologists Scanning Electron Microscopy and X-Ray Microanalysis D. B. Williams's C. Barry Carter's Transmission Electron Microscopy 2nd(Second) edition (Transmission Electron Microscopy: A Textbook for Materials Science [Hardcover])(2009) Typical Electron Microscope Investigations (Monographs in Practical Electron Microscopy in Materials Sci) Scanning Transmission Electron Microscopy: Imaging and Analysis Scanning Transmission Electron Microscopy of Nanomaterials: Basics of Imaging Analysis Electron Diffraction in the Transmission Electron Microscope (Microscopy Handbooks) Transmission Electron Microscopy: A Textbook for

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