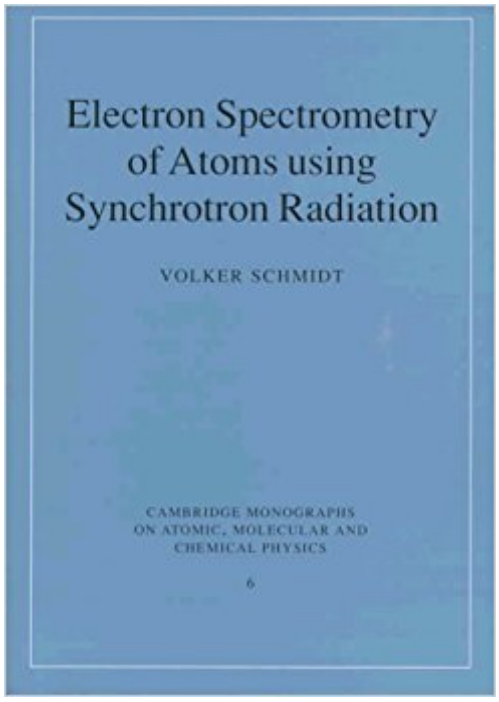
Electron Spectrometry Of Atoms Using Synchrotron Radiation (Cambridge Monographs On Atomic, Molecular And Chemical Physics)



Synopsis

This book describes the theory and practice of electron spectrometry using synchrotron radiation. After a short review of background theory, neon is used to elucidate the principles of the photoelectron and Auger spectra. The second part of the book looks at experimental aspects, including characteristic features of electrostatic analyzers, detectors, lenses, disturbances, and optimization, and then illustrates theory and experiment with details of recent experiments. The third part provides useful reference data, including wavefunctions, special theory, polarization and special aspects of instrumentation. A detailed reference list completes the volume. The study of electron spectrometry using synchrotron radiation is a growing field of research driven by the increasing availability of advanced synchrotron radiation light sources and improved theoretical methods for solving the many-electron problem in atoms. This balanced account will be of value to both theorists and experimentalists working in this area.

Book Information

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Customer Reviews

I found this book an excellent introduction to basic electron spectrometry, providing a very clear description of both basic photoionization theory concepts and the relevant instrumental aspects of electron spectrometry such as electrostatic analysers and lenses, transmission functions, electron channelplate and channeltron detectors including some discussion of position-sensitive detection, basic principles of electron-electron coincidences and distrurbances. Most of this information is

normally found in individual (very often highly technical) articles where a good understanding requires the assimilation of numerous associated and often hard to find references. By having all the basic principles and applications described in one coherent presentation a much quicker initiation into the practical details of the field is accomplished. The numerous concrete examples taken from recent experiments are of particular pedagogical value and make this book quite unique in its approach. I highly recommend this book both to the beginning post-graduate student as an efficient learning tool, as well as to the more experienced researcher as an invaluable source of reference.