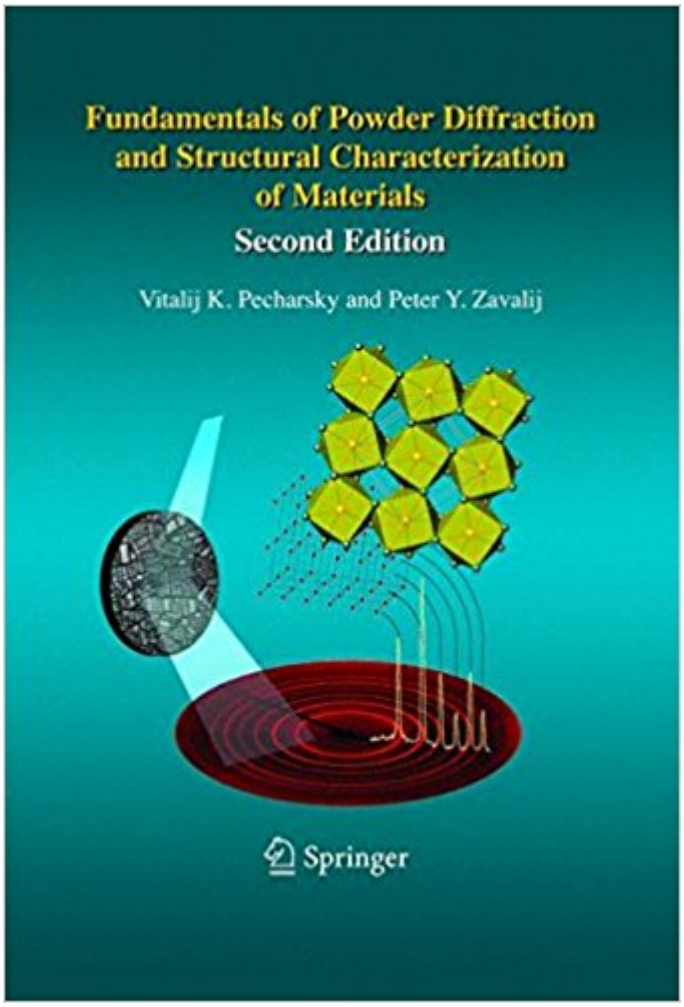
Fundamentals Of Powder Diffraction And Structural Characterization Of Materials, Second Edition



Synopsis

A little over ?ve years have passed since the ?rst edition of this book appeared in print. Seems like an instant but also eternity, especially considering numerous developments in the hardware and software that have made it from the laboratory test beds into the real world of powder diffraction. This prompted a revision, which had to be beyond cosmetic limits. The book was, and remains focused on standard laboratory powder diffractometry. It is still meant to be used as a text for teaching students about the capabilities and limitations of the powder diffraction method. We also hope that it goes beyond a simple text, and therefore, is useful as a reference to practitioners of the technique. The original book had seven long chapters that may have made its use as a text - convenient. So the second edition is broken down into 25 shorter chapters. The ?rst ?fteen are concerned with the fundamentals of powder diffraction, which makes it much more logical, considering a typical 16-week long semester. The last ten ch- ters are concerned with practical examples of structure solution and re?nement, which were preserved from the ?rst edition and expanded by another example â “ R solving the crystal structure of Tylenol .

Book Information

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Customer Reviews

This book provides an in-depth introduction to the theories and applications of the powder diffraction method for structure determination. The emphasis is placed on powder diffraction data collected using conventional x-ray sources, which remain primary tools for thousands of researchers and students from materials science, solid-state chemistry, physics, geology, and other science or

engineering background, in their daily experimental work. It is still meant to be used as the text for teaching students about the capabilities and limitations of the powder diffraction method.This edition is divided into 25 chapters. The first fifteen are concerned with the fundamentals of powder diffraction. The last ten chapters are concerned with practical examples of structure solution and refinement.I think the book is properly structured, figures are representative, and each chapter ends with problems to solve for the reader. I have not found the solutions to the problems raised at the end of each chapter. These solutions would be provided a proper understanding of crystallography in general and X-ray powder diffraction in particular.In my opinion this book is the best in the field so far.I highly recommend buying this book to all researchers in difractometry.P.S. The solutions manual can be obtained by request addressed to Mr. Pecharsky.

It is good

Likely one of the absolute best texts on the topic of XRD and powder diffraction.

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