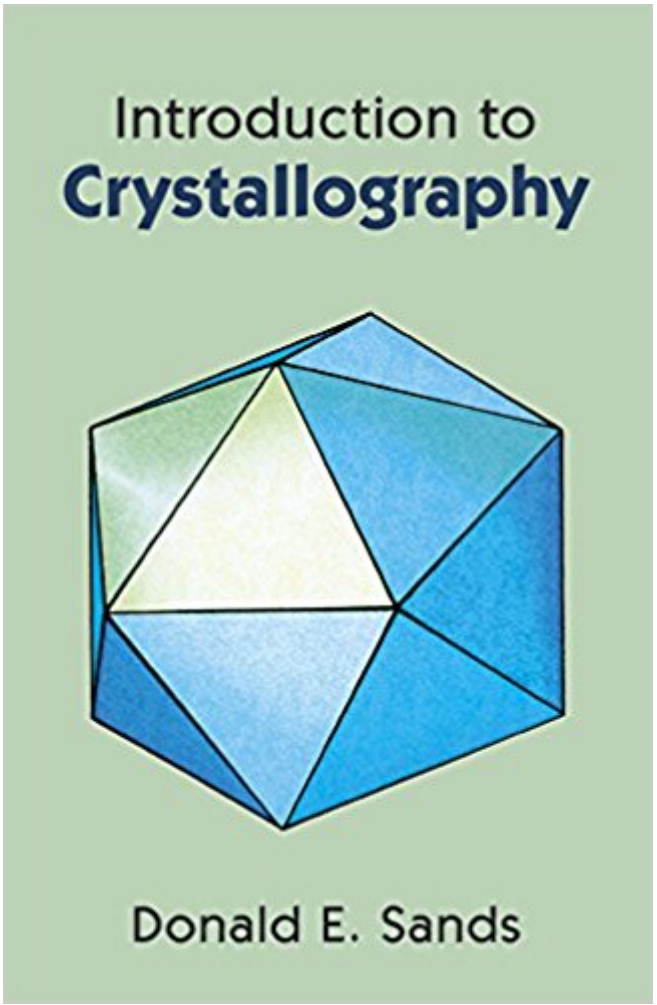
Introduction To Crystallography (Dover Books On Chemistry)



Synopsis

"This is truly a delightful monograph." â ” Canadian Chemical EducationDesigned as a useful, accessible introduction to the logical development of basic crystallographic concepts, this book presents important principles in a clear, concise manner that will enable the nonspecialist to read and comprehend crystallographic literature. Explanations are concise and mathematical prerequisites have been kept to a minimum.In the first four chapters, the author presents the vocabulary of crystallography, with discussions of lattice points, unit cells, symmetry, point groups, crystal systems, space groups, and equivalent positions. The principles of x-ray diffraction and methods of determining crystal structures are summarized in the next two chapters. The final chapter describes various simple structures. Appendixes list the 230 space groups, introduce the reciprocal lattice, and describe the powder method. A well-chosen selection of problems (with solutions) encourages self-study.Ideal as the basis for a course in crystallography and highly useful as an adjunct to physical chemistry courses, this book will also serve as an excellent reference for practicing chemists, mineralogists, metallurgists, and other workers in the field. 1969 edition.

Book Information

Series: Dover Books on Chemistry

Paperback: 192 pages

Publisher: Dover Publications; Revised ed. edition (January 7, 1994)

Language: English

ISBN-10: 0486678393

ISBN-13: 978-0486678399

Product Dimensions: 5.4 x 0.4 x 8.5 inches

Shipping Weight: 7 ounces (View shipping rates and policies)

Average Customer Review: 4.6 out of 5 stars 13 customer reviews

Best Sellers Rank: #573,335 in Books (See Top 100 in Books) #48 inÂ Books > Science & Math > Chemistry > Crystallography #442 inÂ Books > Science & Math > Chemistry > Physical & Theoretical #1851 inÂ Books > Science & Math > Chemistry > General & Reference

Customer Reviews

This book is a must for beginners in the study of crystallography. It covers with worked out examples many of the themes, techniques, and approaches of structure determination, from a historical perspective and almost as a "Cliff Notes" version of the foundations, techniques and approaches within current crystallography. Easy to follow terms and descriptions. Lattice

geometries, symmetries, fourier terms, intensities, structure factors and electron densities; it’s all there. This works as my "bible" in addition to my actual Holy Bible. I can’t say enough good things about this book. Lastly, it’s supremely affordable. Buy it.

Truly a good book, the author has succeeded in explaining every basic concept clearly. It is a must for someone learning crystallography.

Want to know what space group are and what those mysterious symbols "Pmm2" are? This is the book you should start from.

Written well

This is a nice little book covering basic crystallography. Weighing in at a paltry 165 pages, Sands covers crystals, symmetry, groups, and experimental crystallography. Although brief, he is not overly concise (a good thing for an introductory text). He goes into enough detail to get you the basic idea with out bogging you down in the details. For example, most scientists and engineers could care less about group theory; Sands gives the rigorous mathematical definition of a group and then steps immediately back into discussing how they help us as crystallographers. The explanations are, for the most part, lucid and easy to follow. The diagrams are thought out pretty well and help the discussion. The chapters are speckled with short exercises for you to test yourself.I would strongly recommend this book if you need a crash course or refresher in crystallography, or as a supplement to other books.

A very helpful book for studying the course of X-ray diffraction or solid state chemistry, whose content is clearly and easy to understand.

This is a classic and a must have for any Materials Science and Engineering student. For the price you can’t get a text in the subject as good as this one. I strongly recommend supplementing this text with a undergrad structures class.

Together withÂ Group Theory and ChemistryÂ this book makes a good guide to the world of chemical,and geological crystals. Crystalography has a very bad notation problem between Schoenflies symbols for point groups and Hermann-Mauguin symbols for space groups (and

several other types of notation that are used like Miller indices). A basic grounding in symmetry groups used in point groups helps to understand the unit cell symmetries used in space groups. Both of these books fails in the larger Mathematical picture of Lie algebras for two and three dimensions. One can't reward a book or author for making his students intellectual cripples when faced with the more general mathematical groups.

The Basics of Crystallography and Diffraction (International Union of Crystallography Texts on Crystallography) The Basics of Crystallography and Diffraction: Fourth Edition (International Union of Crystallography Texts on Crystallography) The Basics of Crystallography and Diffraction: Third Edition (International Union of Crystallography Texts on Crystallography) Introduction to Crystallography (Dover Books on Chemistry) Crystal Structure Analysis: Principles and Practice (International Union of Crystallography Monographs on Crystallography) The Rietveld Method (International Union of Crystallography Monographs on Crystallography) International Tables for Crystallography, Space-Group Symmetry (IUCr Series. International Tables of Crystallography) Crystallography and Crystal Chemistry: Introduction to the Geometry of the Solid State Modern Quantum Chemistry: Introduction to Advanced Electronic Structure Theory (Dover Books on Chemistry) Study Guide: Ace Organic Chemistry I - The EASY Guide to Ace Organic Chemistry I: (Organic Chemistry Study Guide, Organic Chemistry Review, Concepts, Reaction Mechanisms and Summaries) Ace General Chemistry I and II (The EASY Guide to Ace General Chemistry I and II): General Chemistry Study Guide, General Chemistry Review Minerals and Rocks: Exercises in Crystal and Mineral Chemistry, Crystallography, X-ray Powder Diffraction, Mineral and Rock Identification, and Ore Mineralogy Principles of Protein X-ray Crystallography (Springer Advanced Texts in Chemistry) 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 Structure of Materials: An Introduction to Crystallography, Diffraction and Symmetry Crystallography: An Introduction Introduction to the Methods of Optical Crystallography Crystallography: A Very Short Introduction (Very Short Introductions) X-Ray Crystallography: An Introduction to the Investigation of Crystals by Their Diffraction of Monochromatic X-Radiation What is Organic Chemistry? Chemistry Book 4th Grade | Children's Chemistry Books

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