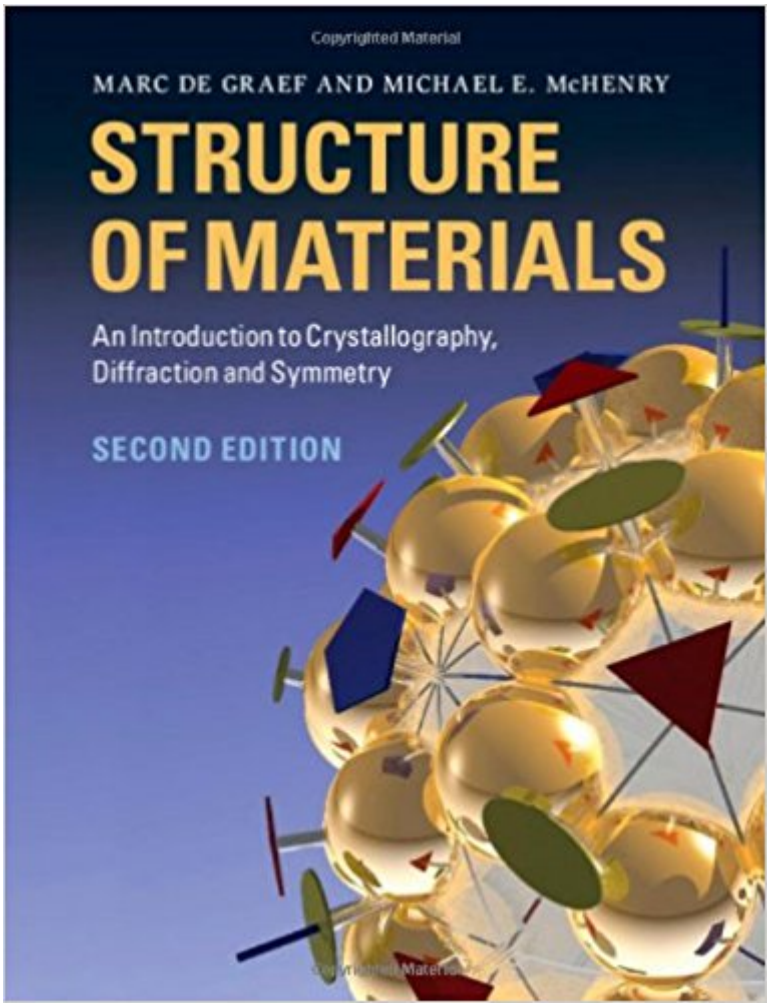
Structure Of Materials: An Introduction To Crystallography, Diffraction And Symmetry



Synopsis

This highly readable, popular textbook for upper undergraduates and graduates comprehensively covers the fundamentals of crystallography and symmetry, applying these concepts to a large range of materials. New to this edition are more streamlined coverage of crystallography, additional coverage of magnetic point group symmetry and updated material on extraterrestrial minerals and rocks. New exercises at the end of chapters, plus over 500 additional exercises available online, allow students to check their understanding of key concepts and put into practice what they have learnt. Over 400 illustrations within the text help students visualise crystal structures and more abstract mathematical objects, supporting more difficult topics like point group symmetries. Historical and biographical sections add colour and interest by giving an insight into those who have contributed significantly to the field. Supplementary online material includes password-protected solutions, over 100 crystal structure data files, and Powerpoints of figures from the book.

Book Information

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Customer Reviews

This is an introductory book dedicated to the structures of a broad range of materials from metals to polymers. The author provides a comprehensive yet clear presentation about metallic and ceramic materials. The discussion on organic materials is just brief. One may refer to other textbooks if organic materials are of interest.

The book covers a lot of material essential to understanding materials science in a fairly competent manor. Easy to read and follow.

Structure of Materials: An Introduction to Crystallography, Diffraction and Symmetry Minerals and Rocks: Exercises in Crystal and Mineral Chemistry, Crystallography, X-ray Powder Diffraction, Mineral and Rock Identification, and Ore Mineralogy Powder Diffraction: The Rietveld Method and the Two Stage Method to Determine and Refine Crystal Structures from Powder Diffraction Data Properties of Materials: Anisotropy, Symmetry, Structure Strain and Dislocation Gradients from Diffraction: Spatially-Resolved Local Structure and Defects Introduction to Crystallography (Dover Books on Chemistry) Fundamentals of Powder Diffraction and Structural Characterization of Materials, Second Edition Crystals, X-rays and Proteins: Comprehensive Protein Crystallography Crystallography Made Crystal Clear, Third Edition: A Guide for Users of Macromolecular Models (Complementary Science) The Structure of Materials (Mit Series in Materials Science and Engineering) Transmission Electron Microscopy: Diffraction, Imaging, and Spectrometry Principles of Optics: Electromagnetic Theory of Propagation, Interference and Diffraction of Light A Practical Guide for the Preparation of Specimens for X-Ray Fluorescence and X-Ray Diffraction Analysis Neutron Diffraction Polypropylene Structure, blends and composites: Volume 1 Structure and Morphology Advanced Organic Chemistry: Part A: Structure and Mechanisms: Structure and Mechanisms Pt. A Symmetry and Spectroscopy: An Introduction to Vibrational and Electronic Spectroscopy (Dover Books on Chemistry) Molecular Symmetry and Group Theory : A Programmed Introduction to Chemical Applications, 2nd Edition Molecular Symmetry and Group Theory: A Programmed Introduction to Chemical Applications Symmetry in Bonding and Spectra: An Introduction