X-Ray Crystallography is a well-balanced, thorough, and clearly written introduction to the most important and widely practiced technique to determine the arrangement of atoms in molecules and solids. Featuring excellent illustrations and homework problems throughout, the book is intended both for advanced undergraduate and graduate students who are learning the subject for the first time, as well as for those who have practical experience but seek a text summarizing the theory of diffraction and X-ray crystallography. It is organized into three parts: Part 1 deals with symmetry and space groups, Part 2 explains the physics of X rays and diffraction, and Part 3 examines the methods for solving and refining crystal structures. The discussion proceeds in a logical and clear fashion from the fundamentals through to advanced topics such as disorder, twinning, microfocus sources, low energy electron diffraction, charge flipping, protein crystallography, the maximum likelihood method of refinement, and powder, neutron, and electron diffraction. The author's clear writing style and distinctive approach is well suited for chemists, biologists, materials scientists, physicists, and scientists from related disciplines