

6.3: X-Ray Crystallography of Solids

Learning objectives for this unit are to:

- Determine the Miller indices of a lattice plane from its intercepts with the edges of the unit cell
 - Visualize and draw a lattice plane when given its Miller indices
 - Describe the properties of X-rays
 - Explain the concept of diffraction as it applies to crystalline lattices
 - Know the equation for Bragg diffraction and use the equation to calculate lattice spacings, diffraction angles, and x-ray wavelengths
 - Compare and contrast single crystal and powder XRD techniques
 - Understand the information contained within a powder XRD pattern, including how the locations and intensities of peaks vary with changes in a crystalline lattice
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