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## X-Ray Diffraction (XRD)

### Definition

Material characterization technique used to determine the crystalline quality, chemical composition, and physical properties of a material. A Cu source is used to generate X-rays, which are then scattered off of a sample and collected by a detector. The full-width at half-maximum (FWHM) value of the scattered X-ray beam can be used as a measure of the materials crystalline perfection.

### Cross References

- ▶ [Fabrication of Self-Assembled Catalytic Nanostructures](#)