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Electrons

	 2.3.4 Incoherent Imaging using Inelastically Scattered Electrons2.3.5 Probe Channeling; 2.3.6 Applications to Materials Research; 2.3.6.1 Semiconductors; 2.3.6.2 Ceramics; 2.3.6.3 Nanocrystalline Materials; 2.3.7 References; 2.4 Scanning Auger Microscopy (SAM) and Imaging X- Ray Photoelectron Microscopy (XPS); 2.4.1 Introduction; 2.4.2 Basic Principles of Auger Electron Spectroscopy (AES) and X-Ray Photoelectron Spectroscopy (XPS); 2.4.2.1 Auger Electron Spectroscopy (AES); 2.4.2.2 X-Ray Photoelectron Spectroscopy (XPS); 2.4.2.3 Quantitative Analysis in AES and XPS 2.4.3 Scanning Auger Microscopy (SAM) and Imaging XPS2.4.3.1 Basic Principles of Imaging; 2.4.3.2 General Aspects of Analyzers; 2.4.3.3 Energy Resolution of Deflecting Electrostatic Analyzers; 2.4.3.4 Cylindrical Mirror Analyzer (CMA) versus the Concentric Hemispherical Analyzer (CHA); 2.4.3.5 Imaging Techniques; 2.4.3.6 Magnetic Fields in Imaging XPS; 2.4.4 Characteristics of Scanning Auger Microscopy Images; 2.4.4.1 General Aspects; 2.4.4.2 Background Slope Effects; 2.4.4.3 Substrate Backscattering Effects; 2.4.4.4 Topographic Effects; 2.4.4.6 Edge Effects2.4.5 Conclusion; 2.4.6 References; 2.5 Scanning Microanalysis; 2.5.1 Physical Basis of Electron Probe Microanalysis; 2.5.1.1 Electron Interactions with Solids; 2.5.1.2 X-Ray Emission Spectra; 2.5.1.3 Characteristic X-Ray Spectra; 2.5.1.4 Soft X-Ray Spectra; 2.5.1.5 X-Ray Continuum; 2.5.1.6 Overview of Methods of Scanning Electron Beam Analysis; 2.5.1.7 Electron Probe X-Ray Microanalyzers; 2.5.1.8 Analytical Electron Microscopes; 2.5.1.9 Multipurpose Electron Probe Analytical Systems; 2.5.1.10 X-Ray Emission Spectrometry; 2.5.1.11 Wavelength-Dispersive Spectrometry 2.5.1.12 Energy-Dispersive Spectrometry
Sommario/riassunto	Comprehensive in coverage, written and edited by leading experts in the field, this Handbook is a definitive, up-to-date reference work. The Volumes Methods I and Methods II detail the physico-chemical basis and capabilities of the various microscopy techniques used in materials science. The Volume Applications illustrates the results obtained by all available methods for the main classes of materials, showing which technique can be successfully applied to a given material in order to obtain the desired information.With the Handbook of Microscopy, scientists and engineers involved in m