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Nota di contenuto	Spectro-microscopy by TEM-SEM -- Determination of Nanosize Particle Distribution by Low Frequency Raman Scattering: Comparison to Electron Microscopy -- Development of Cathodoluminescence (CL) for Semiconductor Research, Part I: TEM-CL Study of Microstructures and Defects in Semiconductor Epilayers -- Development of CL for Semiconductor Research, Part II: Cathodoluminescence Study of Semiconductor Nanoparticles and Nanostructures Using Low-Electron-Beam Energies -- Development of CL for Semiconductor Research, Part III: Study of Degradation Mechanisms in Compound Semiconductor-Based Devices by SEM-CL -- Microcharacterization of Conformal GaAs

on Si Layers by Spatially Resolved Optical Techniques -- Strain Analysis in Submicron Electron Devices by Convergent Beam Electron Diffraction -- Synchrotron Radiation X-ray Microscopy Based on Zone Plate Optics -- Long-Term Oxidation Behaviour of Lead Sulfide Surfaces -- Cross-Sectional Photoemission Spectromicroscopy of Semiconductor Heterostructures -- Surface Imaging Using Electrons Excited by Metastable-Atom Impacts -- Application of Photoemission Electron Microscopy to Magnetic Domain Imaging -- Photoelectron Spectroscopy with a Photoemission Electron Microscope -- X-ray Photoemission and Low-Energy Electron Microscope -- Application of Imaging-Type Photoelectron Spectromicroscopy to Solid-State Physics -- Scanning Near-Field Optical Spectroscopy of Quantum-Confined Semiconductor Nanostructures -- Novel Tuning Fork Sensor for Low-Temperature Near-Field Spectroscopy -- Manipulating, Reacting, and Constructing Single Molecules with a Scanning Tunneling Microscope Tip -- Electron-Beam-Induced Decomposition of SiO2 Overlay on Si in STM Nanolithography -- Direct Imaging of InGaAs Quantum Dot States by Scanning Tunneling Spectroscopy -- Growth and Characterization of Ge Nanostructures on Si(111) -- Imaging of Zero-Dimensional States in Semiconductor Nanostructures Using Scanning Tunneling Microscopy -- Electronic-Excitation-Induced Enhancement in Metallicity on HOPG and Si Surfaces: In Situ STM/STS Studies -- Electronic Properties of Polycrystalline and Amorphous WO3 Investigated with Scanning Tunnelling Spectroscopy -- Probing of Electronic Transitions with Atomic-Scale Spatial Resolution in Semiconductor Quantum Well Structures -- Scanning Tunneling Microscope-Induced Light Emission from Nanoscale Structures.

Sommario/riassunto

Fabrication technologies for nanostructured devices have be- en developed recently, and the electrical and optical pro- perties of such nanostructures are a subject of advanced re- search. This book describes the different approaches to spectroscopic microscopy, i.e., electron beam probe spec- troscopy, spectroscopic photoelectron microscopy, and scan- ning probe spectroscopy. It will be useful as a compact source of reference for the experienced researcher, taking into account at the same time the needs of postgraduate stu- dents and nonspecialist researchers by using a tutorial ap- proach throughout. Fabrication technologies for nano-structured devices have been developed recently, and the electrical and optical properties of such nonostructures are a subject of advanced research. This book describes the different approaches to spectroscopic microscopy, that is, Electron Beam Probe Spectroscopy, Spectroscopic Photoelectron Microscopy, and Scanning Probe Spectroscopy. It will be useful as a compact source of reference for the experienced reseracher,taking at the same time into account the needs of post graduate students and nonspecialist researchers by using a tutorial approach throughout.