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Nota di contenuto	Acoustic Microscopy -- Action Spectroscopy with STM -- Ambient Pressure X-ray Photoelectron Spectroscopy -- Angle-resolved Ultraviolet Photoelectron Spectroscopy -- Atom Probe Field Ion Microscope -- Atomic Force Microscope -- Auger electron spectroscopy -- Cathodoluminescence -- Conductive Atomic Force Microscopy -- Differential Interference Contrast Microscopy/Phase-Contrast Microscopy -- Dynamic Secondary Ion Mass Spectrometry -- Elastic Recoil Detection Analysis -- Electrochemical Atomic Force Microscopy -- Electrochemical Infrared Spectroscopy -- Electrochemical Scanning Tunneling Microscopy -- Electrochemical Second Harmonic Generation -- Electrochemical Sum Frequency

Generation -- Electrochemical Surface X-ray Scattering --
Electrochemical Transmission Electron Microscopy -- Electrochemical
X-ray Absorption Fine Structure -- Electrochemical X-ray Photoelectron
Spectroscopy -- Electron Backscatter Diffraction -- Electron Energy
Loss Spectroscopy -- Electron Probe Microanalysis -- Electron
Stimulated Desorption -- Electron-beam-induced current --
Ellipsometry -- Environmental SEM (Atmospheric SEM) --
Environmental Transmission Electron Microscopy -- Extended X-ray
Absorption Fine Structure -- Focused Ion Beam Scanning Electron
Microscope -- Force Curve -- Force Spectroscopy -- Frequency-
Modulation Atomic Force Microscopy -- Gap Mode Raman Spectroscopy
-- Glow Discharge Mass Spectrometry -- Glow Discharge Optical
Emission Spectrometry -- Hard X-ray Photoelectron Spectroscopy --
Helium Atom Scattering -- High-resolution Elastic Recoil Detection
Analysis -- High-resolution electron energy loss spectroscopy -- High-
resolution Rutherford Backscattering Spectrometry -- High-Speed
Atomic Force Microscopy -- Imaging Ellipsometry -- Impact Collision
Ion Scattering Spectroscopy -- Inelastic Electron Tunneling
Spectroscopy -- Infrared External-Reflection Spectroscopy -- Infrared
Reflection Absorption Spectroscopy -- Interferometer displacement
measurement -- Inverse Photoemission Spectroscopy -- Kelvin Probe
Force Microscope -- Laser Ionization Secondary Neutral Mass
Spectrometry -- Laser Photoelectron Spectroscopy -- Lateral Force
Microscopy -- Liquid SPM/AFM -- Low Energy Ion Scattering
Spectroscopy -- Low-Energy Electron Diffraction -- Low-Energy
Electron Microscope -- Magnetic Force Microscopy -- Matrix-Assisted
Laser Desorption/Ionization -- Medium Energy Ion Scattering -- Micro
Raman Spectroscopy -- Microprobe Reflection High Energy Electron
Diffraction -- Multiple-probe Scanning Probe Microscope -- Nanoscale
Angle-resolved Photoelectron Spectroscopy -- Nonlinear Spectroscopy
-- Nuclear Reaction Analysis -- Optical Microscopy -- Optical second
harmonic generation spectroscopy and microscopy -- Particle Induced
X-ray Emission -- Penning Ionization Electron Spectroscopy -- Phase
Mode SPM/AFM -- Photoelectron diffraction -- Photoelectron
holography -- Photoelectron Yield Spectroscopy -- Photoemission
Electron Microscope -- Photoluminescence -- Photon Emission from
the Scanning Tunneling Microscope -- Photo-Stimulated Desorption --
Piezoresponse Force Microscope -- Positron-Annihilation-Induced
Desorption -- p-Polarized Multiple-Angle Incidence Resolution
Spectrometry -- Quartz Crystal Microbalance -- Reflectance Difference
Spectroscopy -- Reflection High-Energy Electron Diffraction --
Resonant Inelastic X-ray Scattering -- Rutherford Backscattering
Spectrometry -- Scanning Capacitance Microscopy -- Scanning
Electrochemical Microscopy -- Scanning Electron Microscope Energy
Dispersive X-ray Spectrometry -- Scanning Electron Microscopy --
Scanning Helium Ion Microscope -- Scanning Near-field Optical
Microscopy/ Near-field Scanning Optical Microscopy -- Scanning Probe
Microscopy -- Scanning Transmission Electron Microscopy -- Scanning
Transmission X-ray Microscopy -- Scanning Tunneling Microscopy --
Scanning Tunneling Spectroscopy -- Soft X-ray Absorption Fine
Structure -- Spectroscopic Ellipsometry -- Spin- and Angle-resolved
Photoelectron Spectroscopy -- Spin-Polarized Scanning Electron
Microscopy -- Spin-Polarized Scanning Tunneling Microscopy -- Spin-
resolved Photoemission Electron Microscopy -- Super-resolution
Microscopy -- Surface acoustic wave -- Surface Enhanced Raman
Scattering -- Surface Magneto-optic Kerr Effect -- Surface Plasmon
Resonance -- Surface Profilometer -- Surface Sensitive Scanning
Electron Microscopy -- Surface X-ray Diffraction -- Surface-enhanced

Infrared Absorption Spectroscopy -- Synchrotron Radiation
Photoelectron Spectroscopy -- Synchrotron Scanning Tunneling
Microscope -- Thermal desorption spectroscopy -- Time-of-Flight
Secondary Ion Mass Spectrometry -- Time-resolved Photoelectron
Spectroscopy -- Time-resolved Photoemission Electron Microscopy --
Time-resolved Scanning Tunneling Microscopy -- Tip-Enhanced Raman
Scattering -- Total Reflection X-Ray Fluorescence -- Transmission
Electron Diffraction -- Transmission Electron Microscope -- Ultraviolet
Photoelectron Spectroscopy -- Ultraviolet-visible spectrophotometry --
Vibrational Sum Frequency Generation Spectroscopy -- X-ray
Absorption Near Edge Structure -- X-ray aided noncontact atomic force
microscopy -- X-ray Crystal Truncation Rod Scattering -- X-ray
Magnetic Circular Dichroism -- X-ray Photoelectron Spectroscopy -- X-
Ray Reflectivity -- X-ray Standing Wave Method.

Sommario/riassunto

This book concisely illustrates the techniques of major surface analysis and their applications to a few key examples. Surfaces play crucial roles in various interfacial processes, and their electronic/geometric structures rule the physical/chemical properties. In the last several decades, various techniques for surface analysis have been developed in conjunction with advances in optics, electronics, and quantum beams. This book provides a useful resource for a wide range of scientists and engineers from students to professionals in understanding the main points of each technique, such as principles, capabilities and requirements, at a glance. It is a contemporary encyclopedia for selecting the appropriate method depending on the reader's purpose. .
