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Autore	Bubert Henning
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	 3.5.3 Thin Films and Interfaces3.5.4 Surface Segregation; 3.6 Scanning A uger Microscopy (SAM); References; 4: Electron Energy-Loss Spectroscopy (EELS) and Energy-Filtering Transmission Electron Microscopy (EFTEM); 4.1 Principles; 4.2 Instrumentation; 4.3 Qualitative Spectral Information; 4.3.1 Low-Loss Excitations; 4.3.2 Ionization Losses; 4.3.3 Fine Structures; 4.4 Quantification; 4.5 Imaging of Element Distribution; 4.6 Summary; References; 5: Low-Energy Electron Diffraction (LEED); 5.1 Principles and History; 5.2 Instrumentation; 5.3 Qualitative Information; 5.3.1 LEED Pattern 5.3.2 Spot Profile Analysis5.3.3 Applications and Restrictions; 5.4 Quantitative Structural Information; 5.4.1 Principles; 5.4.2 Experimental Techniques; 5.4.3 Computer Programs; 5.4.4 Applications and Restrictions; 5.5 Low-Energy Electron Microscopy; 5.5.1 Principles of Operation; 5.5.2 Applications and Restrictions; References; 6: Other Electron-Detecting Techniques; 6.1 Ion (Excited) Auger Electron Spectroscopy (IAES); 6.2 Ion Neutralization Spectroscopy (INS); 6.3 Inelastic Electron Tunneling Spectroscopy (IETS); Reference; Part Two: Ion Detection 7: Static Secondary Ion Mass Spectrometry (SSIMS)7.1 Principles; 7.2 Instrumentation; 7.2.1 Ion Sources; 7.2.2 Mass Analyzers; 7.2.2.1 Quadrupole Mass Spectrometers; 7.2.2.2 Time-of-Flight Mass Spectrometry (TOF-MS); 7.3 Quantification; 7.4 Spectral Information; 7.5 Applications; 7.5.1 Oxide Films; 7.5.2 Interfaces; 7.5.3 Polymers; 7.5.4 Biosensors; 7.5.5 Surface Reactions; 7.5.6 Imaging; 7.5.7 Ultra- Shallow Depth Profiling; References; 8: Dynamic Secondary Ion Mass Spectrometry (SIMS); 8.1 Principles; 8.1.1 Compensation of Preferential Souttering; 8.1.2 Atomic Mixing
	8.1.3 Implantation of Primary lons
Sommario/riassunto	Surveying and comparing all techniques relevant for practical applications, this second edition of a bestseller is a vital guide to this hot topic in nano- and surface technology. Completely revised and updated, sections include electron, ion and photon detection, as well as scanning microscopy, while new chapters have been added to cover such recently developed techniques as SNOM, SERS, and laser ablation. Over 500 references and a list of equipment suppliers make this a rapid reference for materials scientists, analytical chemists, and those working in the biotechnological industry.