

TABLE OF CONTENTS

The Imaging Process in Field Ion Microscopy – From the FEM to the Atom-Probe	1
Field Emission Energy Distribution (Clean Surfaces)	27
Chemical Surface Reactions in the Presence of High Electric Fields	49
Adsorption and Crystal Growth	73
Surface Diffusion of Metals – A Comparison of Intrinsic and Mass Transfer Measurements	87
Superfine Structures of Semiconductors Grown by Molecular-Beam Epitaxy	111
Recent Studies of Physisorbed Films	125
Monolayer Physical Adsorption on Crystal Surfaces	139
Chemisorption Theory	155
Structural Studies of Clean and Overlayered Surfaces with an Application to Xe Adsorption on Ag	169
Surface Analysis Using Electron Beams	191
Surface Analysis by Means of Ion Beams	207
Surface Analysis by Means of Photoemission and Other Photon-Stimulated Processes	235
Surface Analysis by Means of Magnetic Resonance Techniques	255
Quantum Physics and Chemistry of Surfaces	275
Controlled Atmosphere Electron Microscopy of Gas-Solid Interactions	293
Contributions of Surface Physics to Catalysis	319
Surface Science in the Electronics Industry	331
Surface Effects in Controlled Thermonuclear Fusion	351
Index	377