

# Contents

|   |     |
|---|-----|
| Performance and Selection Criteria of Critical Components<br>of STM and AFM . . . . .   | 1   |
| <i>Y. Martin</i>  |     |
| Investigations on the SFM – Tip to Substrate Interaction . . . . .  | 11  |
| <i>R. Kassing</i>   |     |
| New Scanning Microscopy Techniques: Scanning Noise Microscopy –<br>Scanning Tunneling Microscopy Assisted by Surface Plasmons . . . . . | 32  |
| <i>R. Möller</i>  |     |
| An STM Study of the Oxygenation of Silicon . . . . .  | 49  |
| <i>M.E. Welland, R.B. Leane</i>   |     |
| Scanning Near Field Optical Microscopy . . . . .  | 76  |
| <i>U.Ch. Fischer</i>  |     |
| Study of Epitaxial Growth by Combination of STM and LEED . . . . .  | 85  |
| <i>M. Henzler, U. Köhler, O. Jusko</i>  |     |
| STM Studies of Adsorbates in the Monolayer Range:<br>Ag/Ni(100) and O/Ni(100) . . . . .   | 102 |
| <i>A. Brodde, G. Wilhelmi, H. Neddermeyer</i>   |     |
| Molecular Imaging with the Scanning Tunneling Microscope . . . . .  | 117 |
| <i>J.P. Rabe</i>  |     |
| Imaging of Magnetic Domains in Ferromagnets and Superconductors<br>by Force and Tunneling Microscopy . . . . .                          | 135 |
| <i>U. Hartmann, R. Berthe, T. Göddenhenrich, H. Lemke, C. Heiden</i>  |     |
| Acoustic Microscopy: Pictures to Ponder . . . . .   | 153 |
| <i>G.A.D. Briggs, R. Gundle, C.W. Lawrence, A. Rodriguez-Rey,<br/>C.B. Scruby</i>   |     |
| Real-Time Confocal Scanning Microscope – An Optical Instrument<br>with a Better Depth Resolution . . . . .                              | 167 |
| <i>T. Sure</i>  |     |

|   |     |
|---|-----|
| On the Search for Last Frontiers – Scanning Tunneling Microscopy<br>and Related Techniques (Abstract) . . . . . | 186 |
| <i>D.W. Pohl</i>  |     |
| STM and AFM Extensions (Abstract) . . . . .   | 187 |
| <i>H.K. Wickramasinghe</i>  |     |
| Bibliography . . . . .  | 189 |
| <i>G.W.B. Schlüter</i>  |     |