

CONTENTS

THEORY OF IONIZATION AND ELECTRON EMISSION

| | |
|--|----|
| Theory of Electron Ejection from Matter by Highly Charged Ion Impact J. H. Macek | 1 |
| Dynamic Interaction of Ions with Condensed Matter Using a LCAO Approach F. Flores, J. J. Dorado, F. J. García-Vidal, J. Ortega and R. Monreal | 11 |
| Promotion of Electronic Levels in Bombarded Solids Z. Šroubek and G. Falcone | 19 |
| Theory of Ion-induced Kinetic Electron Emission from Solids M. Rösler | 27 |
| Particle-induced Electron Emission: Open Questions, Pitfalls, and a Few Attempts at Answers P. Sigmund | 59 |

AUGER PROCESSES AT METALLIC SURFACES

| | |
|---|-----|
| Auger Processes at Surfaces A. Niehaus | 79 |
| Electrons from Intra- and Interatomic Auger Processes in Low-Energy Collisions of Singly and Doubly Charged Inert Gas Ions With W(110) Surfaces Partially Covered by Alkali Atoms and NACL Molecules H. Brenten, H. Müller, and V. Kempfer | 105 |
| Inner-shell Target Ionization by the Impact of N^{6+} , O^{7+} and Ne^{9+} on Pt(110) S. Schippers, S. Hustedt, W. Heiland, R. Köhrbrück, J. Kemmler, D. Lecler, and N. Stolterfoht | 117 |
| Studies on Slow Particle-induced Electron Emission from Clean Metal Surfaces by Means of Electron Emission Statistics F. Aumayr and H. Winter | 129 |

KINETIC AUGER PROCESSES AND SHELL EFFECTS

| | |
|---|-----|
| Z ₁ and Z ₂ Oscillations in the Energy Loss of Slow Ions: Inhomogeneous Electron Gas Models J. Calera-Rubio, A. Gras-Martí and N. R. Arista..... | 149 |
| Electron-Shell Effects in Particle-Induced Kinetic Electron Emission From Solids M. M. Ferguson and W. O. Hofer..... | 161 |
| Symmetric and Asymmetric Collisions in Auger Electron Emission from Al, Mg, Si and Mg _x Al _{1-x} Targets Induced by Low keV Ar ⁺ Bombardment A. Bonanno, P. Zoccali, N. Mandarino, A. Oliva and F. Xu | 173 |
| Electron Emission from Silicon Induced by Bombardment with Oxygen Ions E. A. Maydell | 183 |

KINETIC ELECTRON EMISSION FROM THIN FOILS

| | |
|---|-----|
| Electron Ejection Induced by Fast Projectiles G. Schiwietz..... | 197 |
| Electron emission from Swift Hydrogen Cluster Interaction with Thin Carbon Foils H. Rothard, J-P. Thomas, J. Remillieux, J-C. Poizat, R. Kirsch, K-O. Groeneveld, M. Fallavier and D. Dauvergne | 215 |
| Statistics of Heavy Particle-induced Electron Emission from a Foil A. A. Kozochkina, V. B. Leonas and V. E. Fine | 223 |
| Incident and Exit Charge State Dependence of Secondary Electron Emission from a Carbon Foil by the Passage of Swift Oxygen and Carbon Ions T. Azuma, Y. Yamazaki, K. Komaki, H. Watanabe, M. Sekiguchi, T. Hasegawa, T. Hattori and K. Kuroki | 239 |

SURFACE EFFECTS IN KINETIC ELECTRON EMISSION

| | |
|---|-----|
| Electron Emission Phenomena in Grazing Collisions of Fast Ions with Surfaces H. Winter, G. Dierkes, A. Hegmann, J. Leuker, H. W. Ortjohann and R. Zimny..... | 253 |
| Electronic Energy Loss of Fast Protons in Planar Surface Channeling R. Pfandzelter and F. Stölzle..... | 273 |
| Has the True Ion-induced Electron Yield from Copper and Other Metals Been Measured? J. F. Kirchhoff, T. J. Gay and E. B. Hale | 283 |

SPIN POLARIZED ELECTRON EMISSION

| | |
|--|-----|
| Spin-Polarized Electrons: Sources, Time-resolved Photoemission, Thermoemission F. Meier, A. Vaterlaus, J. C. Gröbli, D. Guarisco, H. Hepp, Yu. Mamaev, Yu. Yashin, B. Yavich and I. Kochnev..... | 295 |
|--|-----|

| | |
|---|-----|
| Ion-induced Electron Emission from Magnetic and Nonmagnetic Surfaces | 313 |
| C. Rau, N. J. Zheng, M. Rösler and M. Lu..... | |

ELECTRON EMISSION AND CHARGING OF INSULATORS

| | |
|---|-----|
| Some Physical Descriptions of the Charging Effects in Insulators Under Irradiation | 325 |
| J. Cazaux..... | |
| Secondary Electron Emission from Insulators | 351 |
| J. Schou | |
| Secondary Electron Emission from Alkali Halides Induced by X-rays and Electrons | 359 |
| A. Akkerman, A. Breskin, R. Chechik and A. Gibrekhterman | |
| Electron Emission from Ion Bombarded Solid Argon | 381 |
| D. E. Grosjean and R. A. Baragiola | |

IONIZATION EFFECTS IN SEMICONDUCTORS AND INSULATORS

| | |
|--|-----|
| The Consequences of Electronic Excitation in Semiconductors and Frozen Gases | 395 |
| W. L. Brown | |
| Ionization Tracks | 419 |
| R. E. Johnson..... | |
| Track Effects and Their Influence on Heavy Ion Energy Losses in Semiconductor Devices | 431 |
| A. Akkerman, J. Levinson, D. Ilberg and Y. Lifshitz | |
| Energy Transfer, Scattering, and Ion Emission due to Hyperthermal Neutral Atom Impact at Surfaces | 439 |
| M. J. Cardillo | |
| Ionization of LiF by Hyperthermal Multiply Charged Ions | 447 |
| T. Neidhart, M. Schmid and P. Varga..... | |
| Participants..... | 455 |
| Index..... | 459 |