

ELECTRONIC PROCESSES AT SOLID SURFACES

Editors

E. Ilisca and K. Makoshi



World Scientific

Singapore • New Jersey • London • Hong Kong

CONTENTS

Editors' Foreword	v
<i>P. Mathias</i> Save the Phenomena	xiii
1. Electron Transfer at Surfaces	
<i>B. I. Lundqvist</i> Electron Transfer at Surfaces	1
<i>D. M. Newns, T. F. Heinz, J. A. Misewich, M. Brandbyge</i> <i>& P. Hedegard</i> Canonical Surface Reaction Processes Driven by Electronic Friction	41
<i>K. Makoshi & A. Yoshimori</i> Dynamics of Spin and Charge Metastable He^* ($1s2s$) Atom at Metal Surfaces	59
<i>A. Nourtier</i> Bound States, Resonances and Theory of Non-Adiabatic Charge Transfer	85
<i>S. G. Davison, Z. L. Mišković, A. T. Amos, B. L. Burrows,</i> <i>F. O. Goodman & K. W. Sulston</i> Many-Electron Theory of Charge-Transfer Processes in Particle-Surface Scattering	107
2. Structural and Electron Studies of Surfaces	
<i>N. D. Lang</i> Imaging and Transfer of Single Atoms in the Scanning Tunneling Microscope	167
<i>T. T. Tsong</i> Dynamics and Dynamical Behavior of Metal Surfaces	189
<i>D. E. Ellis & J. Guo</i> Embedded Cluster Models of Electronic Structure of Oxide Surfaces	205

D. Chandesris & M. Sauvage-Simkin

X-Ray Probing of Long and Short Range Order at Surfaces
in Relation with their Electronic Properties

227

3. Reactions and Interactions at Surfaces

J. Goniakowski & C. Noguera

Acid-Base Interactions at Oxide Surfaces

257

N. Takagi & M. Nishijima

Reactions of Gas Molecules on Silicon Surfaces Studied by
High Resolution Electron Energy Loss Spectroscopy

285

F. Ruetten & F. M. Poveda

Modeling of Carbon Formation on a Nickel Catalyst

303

E. Ilisca & M. Rami

Hyperfine Measure of Surface Electron Configurations

329

Authors (Addresses)

347