

TABLE OF CONTENTS

AFM/STM

- Interrogating Electrode Surfaces with Potential-Dependent Adhesion Forces
A. Gewirth and J. Serafin 1
- Atomic Force Microscopy Study of the Initial Stages of Anodic Oxidation
of Aluminum in Acidic Solution
H. Wu, X. Zhang, and K. Hebert 17
- Electrochemical Video-STM
O.M. Magnussen, L. Zitzler, B. Gleich, and R.J. Behm 29
- In-situ STM Study of Local Dissolution/Deposition and Anodic Dissolution
of Cu(111) Electrode in Sulphuric Acid Solution
W.-H. Li, J.-H. Ye, S.F.Y. Li, and R. J. Nichols 39
- Chemically Sensitive Scanning Force Microscopy
S.-S. Wong, H. Takano, J. Harnisch, and M. Porter 46

Optical Methods

- High Resolution In Situ Images of Reacting Surfaces
W.H. Smyrl, M. Büchler, L.F. Garfias-Mesias, and J. Kerimo 55
- Monitoring Localized Thin-Film Corrosion Events Via Integrated Optical
and Atomic Force Microscopies
K. Stevenson, J. Hupp, and S. Yan 66
- Application of a Near Field Scanning Optical Microscope and Modifications
Thereof on the Characterization of Corrosion
M. Büchler, J. Kerimo, F. Guillaume, and W. Smyrl 78
- In-situ High-Resolution Microscopy on Duplex Stainless Steels
L.F. Garfias and D.J. Siconolfi 89

SECM

- Scanning Electrochemical Microscopy as a Dynamic Probe of Metal Adsorption,
Nucleation and Growth on Surfaces: Silver Deposition on Pyrite
P. Unwin, J. Macpherson, R. Martin, and C. McConville 104
- Scanning Electrochemical Microscopy Detection of Dissolved Sulfur Species at
Inclusions in Stainless Steel and Nickel
C. Paik, S. Basame, H. White, and R. Alkire 122

Corrosion Behavior of a Duplex Stainless Steel Studied by STM/AFM Based Scanning Electrochemical Microscopy <i>J. Pan, M. Femenia, and C. Leygraf</i>	131
Simultaneous Topographical and Amperometric Imaging of Surfaces in Air and Under Solution <i>J. Macpherson, C. Jones, and P. Unwin</i>	147
Local Analysis of Anodic Oxide Films on Titanium by Scanning Droplet Cell and Scanning Electrochemical Microscope <i>A.W. Hassel, K. Fushimi, T. Okawa, and M. Seo</i>	166
Imaging the Reactivity of Electro-Oxidation Catalysts with the Scanning Electrochemical Microscope <i>B. Shah, K. Jambunathan, and A. Hillier</i>	175
Local Impedance/Local Current	
Ionic Current Mapping Techniques and Applications to Aluminum-Copper Corrosion <i>H.S. Isaacs, C.S. Jeffcoate, N.A. Missert, and J.C. Barbour</i>	192
Performances and Limitations of Current Probes for LEIS Measurements. A Comparative Study of Vibrating (SVET) and Double-Electrodes <i>E. Bayet, L. Garrigues, F. Huet, M. Keddam, K. Ogle, N. Stein, and H. Takenouti</i>	200
Localized Electrochemical Methods Applied to Cut Edge Corrosion <i>K. Ogle, V. Baudu, L. Garrigues, and X. Phillip</i>	212
Interpretation of LEI Maps of Coated Substrates <i>A.M. Mierisch and S.R. Taylor</i>	229
Interpretation of ac Surface Current Density by Deconvolution of Potential Differences in Solution <i>F. Zou, H.S. Isaacs, D. Thierry</i>	241
In Situ Monitoring of Corrosion Fatigue of Galvanized Cable <i>M. Kendig, M.R. Mitchell, J.G. Flintoff, S. Jeanjaquet, and A.D.W. McKie</i>	269
Detection of Localized Corrosion Activity on Underground Pipeline Systems Using AC Impedance <i>H. Castaneda, M. Urquidi-Macdonald</i>	279

Impedance Spectroscopy of Yttria-Stabilized Zirconia Thin Film
S.Y. Chun, T. Kiguchi, K. Shinozaki, N. Mizutani 294

Scanning Kelvin Probe

The Scanning Kelvin Probe as a New Technique to Analyze Buried Interfaces
M. Rohwerder and M. Stratmann 302

Scanning Kelvin Probe for Characterization of the Metal-Polymer Interface
A. Nazarov and D. Thierry 316

Scanning Kelvin Probe Force Microscopy and Auger Electron Spectroscopy
Studies of Passive Surfaces
V. Guillaumin, P. Schmutz, and G.S. Frankel 339

SKFM Observations of Corrosion on Iron
H. Masuda and K. Noda 351

Additional Techniques

Study on a Local Breakdown Process of Passive Film on Iron by a
Liquid-Phase Ion-Gun
K. Fushimi and M. Seo 362

Surface Stress of Tin Oxide Electrode
G. Valincius and V. Reipa 370

Pitting at MnS Inclusions on Stainless Steel in Different Electrolytes and
Temperatures
J.O. Park and H. Böhni 377

Dynamics of Salt Film Behavior During Electrodissolution of Fe, Ni and
Alloys in Concentrated Chloride Solutions
D.H. Shen, W. Li, and K. Nobe 384