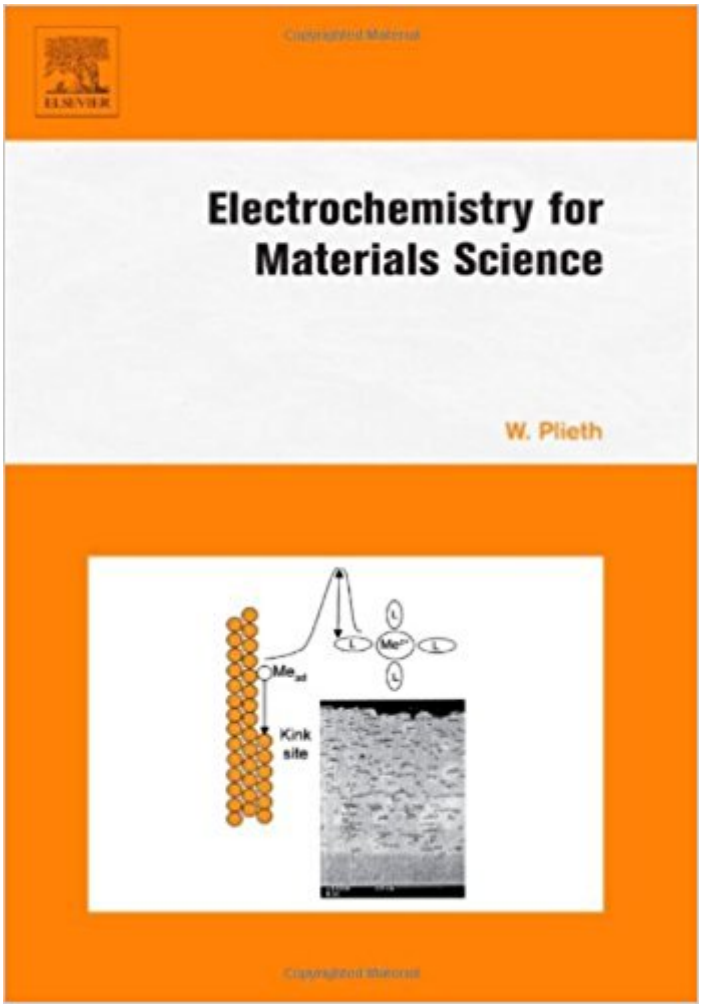
Electrochemistry For Materials Science



Synopsis

This book introduces the principles of electrochemistry with a special emphasis on materials science. This book is clearly organized around the main topic areas comprising electrolytes, electrodes, development of the potential differences in combining electrolytes with electrodes, the electrochemical double layer, mass transport, and charge transfer, making the subject matter more accessible.In the second part, several important areas for materials science are described in more detail. These chapters bridge the gap between the introductory textbooks and the more specialized literature. They feature the electrodeposition of metals and alloys, electrochemistry of oxides and semiconductors, intrinsically conducting polymers, and aspects of nanotechnology with an emphasis on the codeposition of nanoparticles.This book provides a good introduction into electrochemistry for the graduate student. For the research student as well as for the advanced reader there is sufficient information on the basic problems in special chapters. The book is suitable for students and researchers in chemistry, physics, engineering, as well as materials science. - Introduction into electrochemistry- Metal and alloy electrodeposition- Oxides and semiconductors, corrosion- Intrinsically conducting polymers- Codeposition of nanoparticles, multilayers

Book Information

Hardcover: 420 pages
Publisher: Elsevier Science; 1 edition (January 22, 2008)
Language: English
ISBN-10: 0444527923
ISBN-13: 978-0444527929
Product Dimensions: 0.8 x 6.8 x 9.8 inches
Shipping Weight: 2.1 pounds (View shipping rates and policies)
Average Customer Review: Be the first to review this item
Best Sellers Rank: #1,899,689 in Books (See Top 100 in Books) #69 inÃ Â Books > Science & Math > Chemistry > Electrochemistry #521 inÃ Â Books > Science & Math > Chemistry > Analytic #1311 inÃ Â Books > Science & Math > Chemistry > Physical & Theoretical

Analysis: Case Studies and Design Implications (International Series on Materials Science and Technology) (v. 3) Electrochemistry of Porous Materials Fundamentals and Applications of Organic Electrochemistry: Synthesis, Materials, Devices Electrodeposition: The Materials Science of Coatings and Substrates (Materials Science and Process Technology) Phillips' Science of Dental Materials, 12e (Anusavice Phillip's Science of Dental Materials) Phillips' Science of Dental Materials, 11e (Anusavice Phillip's Science of Dental Materials) Phillips' Science of Dental Materials - E-Book (Anusavice Phillip's Science of Dental Materials) Modern Electrochemistry 2B: Electrodics in Chemistry, Engineering, Biology and Environmental Science Electrochemistry: Principles, Methods, and Applications (Oxford Science Publications) Materials: Engineering, Science, Processing and Design (Materials 3e North American Edition w/Online Testing) Materials for Optoelectronics (Electronic Materials: Science & Technology) Engineering Materials 2, Fourth Edition: An Introduction to Microstructures and Processing (International Series on Materials Science and Technology) Engineering Materials 2: An Introduction to Microstructures, Processing and Design (International Series on Materials Science and Technology) (v. 2) Materials North American Edition w/Online Testing: Materials - North American Edition, Second Edition: engineering, science, processing and design Materials: Engineering, Science, Processing and Design (Materials 3e with Online Testing) Deformation and Fracture Behaviour of Polymer Materials (Springer Series in Materials Science) Mechanics Of Composite Materials (Materials Science & Engineering Series)