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Nota di contenuto	Chapter 1: Benzotriazole Encapsulated Nanocontainer-Based Self-Healing Coatings for Corrosion Protection of Mild Steel -- Chapter 2: Effect of Metallic Ion Species on Nitric Acid Corrosion of Type 304L Stainless Steel -- Chapter 3: Effects of Strontium Addition on Corrosion Properties of Al-12Si Alloy -- Chapter 4: Evaluation of Corrosion Rate and Scratch Resistance in Chromium Alloyed Irons Influenced by Manganese Addition and Process Parameters -- Chapter 5: Stress Corrosion Cracking Behavior of Spring Steel in Aggressive Corrosion Environment -- Chapter 6: Effect of pH on Electrodeposition of Ni-Cd Alloy Coatings and their Anticorrosion Performance -- Chapter 7: A Study of Electrodeposited Gold Thin Films using a Confocal Laser Scanning Microscope -- Chapter 8: One-pot Solvothermal Synthesis of Spinel MgFe2O4 Nanoparticles as a Promising Cathode Material for Rechargeable Mg-ion Battery -- Chapter 9: Methanol ElectrooxidationActivity of Pt/C Catalyst Promoted by Ce-Gd-Zr-O Solid Solution -- Chapter 10: La- and Gd-doped CeO2 Nanoparticles as Electrolyte Materials for Intermediate Temperature Solid Oxide Fuel

Cells -- Chapter 11: Ni-Fe Alloy Mesh as a Low Cost Oxygen Evolution Catalyst -- Chapter 12: Design of imprinting matrix for dual template sensing based on Molecularly Imprinted Polymer Technology -- Chapter 13: Recent Perspective and Applications of Electrode Materials for Electrochemical Sensing of Lead Ions -- Chapter 14: Voltammetric Response of Synthesized CuO Nanoparticles towards Dopamine -- Chapter 15: Electrochemical and Photocatalytic Applications of ZnO Nanoparticles Synthesized Using the Leaf Extract of Ricinus Communis -- Chapter 16: Template Free Electrochemical Synthesis of Multidimensional Copper/Copper Oxide Nanoparticles -- Chapter 17: Facile Fabrication of Stable Superhydrophobic and Conductive Carbon Black Coating.-Chapter 18: Green Synthesis and Characterization of Zinc Ferrite and Lanthanum- Doped Zinc Ferrite -- Chapter 19: Dielectric Properties of NixCu1-xFe2O4:PbZr0.52Ti0.48O3 Multilayered Nano-Composites.

Sommario/riassunto

This book encompasses select proceedings of NSEST-2020 and ECSIRM-2020. The volume covers advances in major areas of electrochemical science and technology and surface engineering. It covers all aspects of electrochemistry with more emphasis on corrosion. The corrosion topics include self-healing sol-gel based corrosion resistant coatings, nitric acid corrosion of stainless steel, stress corrosion cracking, etc. Few chapters are focused on electrodeposition and new materials for oxygen evolution catalysts, fuel cells and batteries. The chapters on molecularly imprinted polymer sensor for dual analytes, electrochemical sensors for lead ions and dopamine, etc., are of interest. Some papers are related to the green synthesis of nanosized oxides and superhydrophobic coatings. This book will be handy and beneficial to researchers, students, and professionals working in areas related to electrochemistry and surface engineering. .