

Table of Contents

Preface

| | |
|---|-----|
| High Pressure Supercritical Carbon Dioxide Separation from its Mixture with Nitrogen at Different Temperatures | |
| R.M. El-Maghraby, M. Ramzy and A.K. Aboul-Gheit | 1 |
| Decontamination of Heavy Metals from Wastewater Effluent Using Polypyrrole/Polyvinylpyrrolidone Nanoparticles | |
| S.E. Zayan, A.H. El Shazly and M.F. El-Kady | 15 |
| Anodic Aqueous Electrophoretic Deposition of Graphene Oxide on Copper Using Different Cathode Materials | |
| E. Hares, A.H. El Shazly, M.F. El-Kady, K. Madih, H. Orleans-Boham and A.Y.M. Ali | 21 |
| Characterization of the Mixing Performance of an Innovative Hepatic Sinusoids-Based Microreactor Using Villermaux-Dushman Protocol | |
| M.A. Shouman, A.H. El Shazly, M.F. El-Kady and M.N. Sabry | 28 |
| Micro-Ribbons and Micro-Wires Silica Synthesis Using Bottom-Top Technique | |
| M. Nabil and H.A. Motaweh | 33 |
| Facile Fabrication of Porous and Hydrophilic Polystyrene Membranes Using Recycled Waste | |
| M. Khaled, H. Noby, W.A. Aissa and A.H. El Shazly | 39 |
| Experimental and Theoretical Studies of Thermophysical Properties of MgO-Water Nanofluid | |
| A.Y.M. Ali, A.H. El Shazly, M.F. El-Kady, H.I. Elqady, K. Madih and E. Hares | 47 |
| A Review on Titanium Dioxide Based Nanofluids: Synthesis and Stabilizing Techniques in Both “Pure (Single System) and Mixed (Hybrid System) Base Fluids” | |
| N.M. Serour, A.H. El Shazly, D.A. El-Gayar and S.A. Nosier | 53 |
| Effect of Smart Glazing Window on Energy Consumption inside Office Building | |
| A.M. Nageib, A.M. El-Zafarany, F.O. Mohamed and M.H. El-Hefnawy | 72 |
| Electrochemical Synthesis of Silicon and Gallium Arsenide Photovoltaic Thin Films: A Critical Review and a Novel Approach | |
| A. Bakkar | 84 |
| Modeling and Optimization of Photocatalytic Degradation of Methylene Blue Using Lanthanum Vanadate | |
| M. Samy, M.G. Ibrahim, M. Gar Alalm and M. Fujii | 97 |
| Superconducting and Electrical Resistivity of HTS Bi-2223 Doped by $(\text{Cr}_2\text{O}_3:\text{SnO})_x$ Nanoparticles | |
| H. Khalil, A.E. Kashyout, O. Hemeda and T. Meaz | 104 |
| Effects of Doping on Zeta Potential and pH of Polyaniline Colloidal Suspension | |
| M. Fuseini, A.H. El Shazly and M.F. El-Kady | 114 |
| Long-Term Assessment of 1,4-Dioxane Uptake via Duckweed with Emphasis on Operational Parameters | |
| R. Osama, M.G. Ibrahim, A. Elreedy and M. Fujii | 121 |
| Effects of Air Temperature on Combustion Characteristics of LPG Diffusion Flame | |
| A.M. Salman, I.A. Ibrahim, H.M. Gad and T.M. Farag | 128 |
| Numerical Simulation for Falling Film Thickness around Horizontal Tube in MVC and MED Evaporators | |
| A.A. Ibrahim, H.E.S. Fath and M.G. Ibrahim | 139 |
| Rate of Copper Ions Removal from Copper Sulfate Solution by Cementation on Steel Turbulence Promoters Using Stirred Tank Reactor | |
| A.M. Ismail, M.S. Mansour, D.A. El-Gayar and Y.H. Farid | 151 |
| Pyrolysis of Sugarcane Bagasse: The Effects of Process Parameters on the Product Yields | |
| A.G.H. Saif, S.S. Wahid and M.R.O. Ali | 159 |
| The Effect of Using Baffles on the Rate of Mass Transfer of a Cylindrical Stirred Tank Reactor | |
| F. Shokry, D.A. El-Gayar, M.A. El-Fattah, H.A. Farag and G.H. Sedahmed | 168 |

| | |
|---|-----|
| Experimental Study on the Desalination System Using Humidification-Dehumidification Technology | |
| H. Abbady, M.S. Ahmed, H. Hassan and A.S.A. Mohamed | 177 |
| Evaluation of Stainless Steel as an Electrocatalyst for Electrooxidation of Urea - Rich Wastewater | |
| K. Madih, A.H. El Shazly, M.F. El-Kady, A.Y.M. Ali, H.I. Elqady and E. Hares | 186 |
| Removal of Copper Ions from Wastewater by Ion Exchange Resin Using Pulsation Technique | |
| E.H.A. El-Halim, D.A. El-Gayar and H. Farag | 191 |
| Biochar Synthesis for Industrial Wastewater Treatment: A Critical Review | |
| A.G. Kumi, M.G. Ibrahim, M. Nasr and M. Fujii | 202 |
| Towards Potential Removal of Malachite Green from Wastewater: Adsorption Process Optimization and Prediction | |
| R.M. Ali, M.A. Hassaan and M.R. Elkatory | 213 |
| Synthesis, Characterisation, and Performance of Polyaniline (PANI) in Metals Sorption | |
| H. Orleans-Boham, A.H. El Shazly, M.F. El-Kady and J. Chireboah-Ansah | 222 |
| A Study on Bio-Diesel and Jet Fuel Blending for the Production of Renewable Aviation Fuel | |
| R.M. El-Maghraby | 231 |