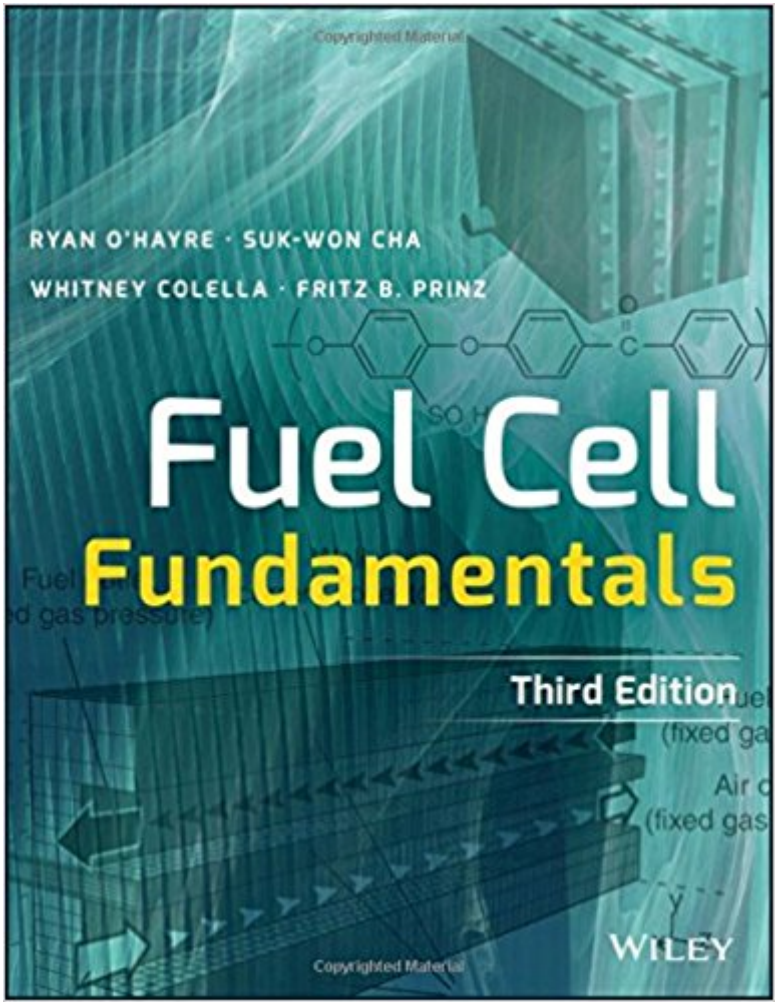
Fuel Cell Fundamentals



Synopsis

A complete, up-to-date, introductory guide to fuel cell technology and application Fuel Cell FundamentalsÃ Â provides a thorough introduction to the principles and practicalities behind fuel cell technology. Beginning with the underlying concepts, the discussion explores fuel cell thermodynamics, kinetics, transport, and modeling before moving into the application side with guidance on system types and design, performance, costs, and environmental impact. This new third edition has been updated with the latest technological advances and relevant calculations, and enhanced chapters on advanced fuel cell design and electrochemical and hydrogen energy systems. Worked problems, illustrations, and application examples throughout lend a real-world perspective, and end-of chapter review questions and mathematical problems reinforce the material learned. Fuel cells produce more electricity than batteries or combustion engines, with far fewer emissions. This book is the essential introduction to the technology that makes this possible, and the physical processes behind this cost-saving and environmentally friendly energy source. Understand the basic principles of fuel cell physics Compare the applications, performance, and costs of different systems Master the calculations associated with the latest fuel cell technology Learn the considerations involved in system selection and design As more and more nations turn to fuel cell commercialization amidst advancing technology and dropping deployment costs, global stationary fuel cell revenue is expected to grow from $1.4 billion to $40.0 billion by 2022. The sector is forecasted to explode, and there will be a tremendous demand for high-level qualified workers with advanced skills and knowledge of fuel cell technology. Fuel Cell Fundamentals is the essential first step toward joining the new energy revolution.

Book Information

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Customer Reviews

Gain A Working Knowledge of Fuel Cell Technology with This Updated Text In the search for economical and environmentally friendly energy sources, fuel cell technology takes center stage. Since its introduction in 2005, Fuel Cell Fundamentals has provided a solid introduction to the essential science and engineering behind this technology, with emphasis on the foundational scientific principles that apply to fuel cell types. Fully updated with the latest technological advances, relevant calculations, and enhanced chapters on advanced fuel cell design and electrochemical and hydrogen energy systems, this new edition also features worked problems, illustrations, and real-world application examples. Instruction is presented in two parts: Fuel Cell Principles examines the basics of fuel cell physics, including fuel cell thermodynamics, kinetics, transport, and modeling. Fuel Cell Technology explores fuel cell types, the latest electrical and hydrogen technology, and the design of systems and subsystems based on application, performance, cost, and environmental impact. This book covers the "how" and "why" of fuel cell technology. If you are a graduate or advanced undergraduate student in engineering or material science, Fuel Cell Fundamentals helps prepare you to pursue this booming field.

RYAN O'HAYRE, PhD, is a Professor of Metallurgical and Materials Engineering at the Colorado School of Mines where his Advanced Energy Materials Laboratory develops new materials and devices to enable alternative energy technologies. SUK-WON CHA, PhD, is a Professor in the School of Mechanical and Aerospace Engineering at Seoul National University, Seoul, South Korea. WHITNEY G. COLELLA, PhD, is Faculty with the G.W.C. Whiting School of Engineering at The Johns Hopkins University in Baltimore, Maryland and Principal Research Engineer with Gaia Energy Research Institute. FRITZ B. PRINZ, PhD, is the Finmeccanica Professor in the School of Engineering, Professor of Mechanical Engineering and Professor of Materials Science and Engineering at Stanford University.

Good book to guide me in early research of fuel cells.

Fuel Cell Fundamentals International Fuel Gas Code 2006 (International Fuel Gas Code) US Army, Technical Manual, TM 9-4520-257-12&P, HEATER, SPACE, RADIANT, LARGE, (H-45), (TYPE I,

SOLID FUEL), (NSN 4520-01-354-119, (TYPE II, LIQUID FUEL), (4520-01-329-3451) Build A Solar Hydrogen Fuel Cell System Profiting from Clean Energy: A Complete Guide to Trading Green in Solar, Wind, Ethanol, Fuel Cell, Carbon Credit Industries, and More Making Cell Groups Work: Navigating the Transformation to a Cell-Based Church Introduction to Cell and Tissue Culture: Theory and Technique (Introductory Cell and Molecular Biology Techniques) Cell Phones and Distracted Driving (Cell Phones and Society) Fuel Cells: From Fundamentals to Applications Electrochemical Impedance Spectroscopy in PEM Fuel Cells: Fundamentals and Applications Plastic Injection Molding: Product Design & Material Selection Fundamentals (Vol II: Fundamentals of Injection Molding) (Fundamentals of injection molding series) Plastic Injection Molding: Mold Design and Construction Fundamentals (Fundamentals of Injection Molding) (2673) (Fundamentals of injection molding series) Resilient Cities, Second Edition: Overcoming Fossil Fuel Dependence Fat for Fuel: A Revolutionary Diet to Combat Cancer, Boost Brain Power, and Increase Your Energy The New Rules of Marathon and Half-Marathon Nutrition: A Cutting-Edge Plan to Fuel Your Body Beyond ""the Wall"" 2012 International Fuel Gas Code (International Code Council Series) Intermittent Fasting: Make Your Body Burn Fat For Fuel Everyday, Optimize Muscle Mass, Hormones And Health. Decrease Insulin Resistance And Body Fat (intermittent ... fasting for weight loss, lean body.) The No Meat Athlete Cookbook: Whole Food, Plant-Based Recipes to Fuel Your WorkoutsÃ¢â ¬â ¢and the Rest of Your Life Fuel for Life: Achieve maximum health with amazing dairy, wheat and sugar-free recipes and my ultimate 8-week eating plan Fat for Fuel Ketogenic Cookbook: Recipes and Ketogenic Keys to Health from a World-Class Doctor and an Internationally Renowned Chef