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4.2 Current-Producing Reactions and Thermodynamic Parameters4.3 Anodic Oxidation of Methanol; 4.4 Milestones in DMFC Development; 4.5 Membrane Penetration by Methanol (Methanol Crossover); 4.6 Varieties of DMFCs; 4.7 Special Operating Features of DMFCs; 4.8 Practical Models of DMFCs and Their Features; 4.9 Problems to Be Solved in Future DMFCs; Part B: Direct Liquid Fuel Cells; 4.10 The Problem of Replacing Methanol; 4.11 Fuel Cells Using Organic Liquids as Fuels; 4.12 Fuel Cells Using Inorganic Liquids as Fuels; References; 5 Phosphoric Acid Fuel Cells

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6.6 Direct Ammonia Fuel Cell with an Anion-Exchange MembraneReferences; 7 Molten Carbonate Fuel Cells; 7.1 Special Features of High-Temperature Fuel Cells; 7.2 Structure of Hydrogen-Oxygen MCFCs; 7.3 MCFCs with Internal Fuel Reforming; 7.4 Development of MCFC Work; 7.5 The Lifetime of MCFCs; References; 8 Solid-Oxide Fuel Cells; 8.1 Schematic Design of Conventional SOFCs; 8.2 Tubular SOFCs; 8.3 Planar SOFCs; 8.4 Monolithic SOFCs; 8.5 Varieties of SOFCs; 8.6 Utilization of Natural Fuels in SOFCs; 8.7 Interim-Temperature SOFCs; 8.8 Low-Temperature SOFCs

8.9 Factors Influencing the Lifetime of SOFCs

Sommario/riassunto

"This book extracts the most important information on fuel cells, analyzes it, and assesses its scientific value and technical importance. It provides a full yet concise description of all the important aspects of fuel cells from major types to their historical development to inherent scientific and engineering problems and their commercialization and applications. This edition adds two new chapters, one on structural and wetting properties of porous fuel cell components and the other on fuel cells with mixed reactant supply, and updates all chapters with current knowledge for each topic"--