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Nota di contenuto	Integrated Chemical Processes; Contents; Preface; List of Contributors; Part I Integration of Heat Transfer and Chemical Reactions; 1 Enhancing Productivity and Thermal Efficiency of High-Temperature Endothermic Processes in Heat-Integrated Fixed-Bed Reactors; Abstract; 1.1 Introduction; 1.2 Heat-Integrated Processes for Endothermic Reactions; 1.2.1 Optimality Conditions; 1.2.1.1 Efficiency of Heat Recovery; 1.2.1.2 Temperature Control; 1.3 Multifunctional Reactor Concepts; 1.3.1 Regenerative Processes; 1.3.1.1 Simultaneous Mode; 1.3.1.2 Asymmetric Mode 1.3.1.3 Symmetric Mode with Side Stream Injection1.3.1.4 Counter-current Mode; 1.3.1.5 Overheating During Oxidative Coke Removal; 1.3.2 Recuperative Processes; 1.3.2.1 Processes for Large-Scale Applications; 1.3.2.2 Processes for Small-scale Applications; 1.4 Conclusions; Symbols and Abbreviations; References; 2 Conceptual Design of Internal Reforming in High-Temperature Fuel Cells; 2.1 Introduction; 2.2 Technical Background; 2.3 Modeling; 2.3.1 Model

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2.3.2 Conversion Diagram
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Appendix: Numerical Methods for the Bifurcation Analysis in Section 3.0
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4.4.1.1 Reaction Kinetics and Mass Balances

Sommario/riassunto

This is the first book dedicated to the entire field of integrated chemical processes, covering process design, analysis, operation and control of these processes. Both the editors and authors are internationally recognized experts from different fields in industry and academia, and their contributions describe all aspects of intelligent integrations of chemical reactions and physical unit operations such as heat exchange, separational operations and mechanical unit operations. As a unique feature, the book also introduces new concepts for treating different integration concepts on a generaliz
