1. Record Nr. UNISALENTO991003225779707536

Autore	Liu, G. R.
Titolo	Finite element method [e-book] : a practical course / G.R. Liu, S. Quek
Pubbl/distr/stampa	Oxford : Butterworth-Heinemann, 2003
ISBN	9780750658669 0750658665
Descrizione fisica	xv, 348 p. : ill. ; 24 cm
Altri autori (Persone)	Quek, S.
Disciplina	620.001515353
Soggetti	Finite element method Electronic books.
Lingua di pubblicazione	Inglese
Formato	Risorsa elettronica
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index
Nota di contenuto	Preface; Computational modelling; Introduction to mechanics for solids and structures; The Finite Element Method; FEM for trusses; FEM for beams; FEM for frames; FEM for two-dimensional solids; FEM for plates and shells; FEM for 3D solids; Special purpose elements; Modelling techniques; FEM for heat transfer problems; Using ABAQUS; References; Index
Sommario/riassunto	The Finite Element Method (FEM) has become an indispensable technology for the modelling and simulation of engineering systems. Written for engineers and students alike, the aim of the book is to provide the necessary theories and techniques of the FEM for readers to be able to use a commercial FEM package to solve primarily linear problems in mechanical and civil engineering with the main focus on structural mechanics and heat transfer. Fundamental theories are introduced in a straightforward way, and state-of-the-art techniques for designing and analyzing engineering systems, including microstructural systems are explained in detail. Case studies are used to demonstrate these theories, methods, techniques and practical applications, and numerous diagrams and tables are used throughout. The case studies and examples use the commercial software package ABAQUS, but the techniques explained are equally applicable for readers using other applications including NASTRAN, ANSYS, MARC, etc. Full sets of PowerPoint slides developed by the authors for their

	course on FEM are available as a free download from a companion website. * A practical and accessible guide to this complex, yet important subject * Covers modeling techniques that predict how components will operate and tolerate loads, stresses and strains in reality * Full set of PowerPoint presentation slides which illustrate and support the book are available on a companion website

2. Record Nr. UNINA9910826829803321

Autore	Hessel Volker
Titolo	Novel process windows : innovative gates to intensified and sustainable chemical processes / / Volker Hessel, Dana Kralisch, and Noprbert Kockmann
Pubbl/distr/stampa	Weinheim, Germany : , : Wiley, , [2015] ©2015
ISBN	3-527-65484-4 3-527-65482-8 3-527-65485-2
Descrizione fisica	1 online resource (632 p.)
Disciplina	660.6 660.63
Soggetti	Green chemistry Chemical processes Environmental chemistry Microreactors Chemical engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Related Titles; Title Page; Copyright; Dedication Page; Motivation - Who Should Read the Book!?; Acknowledgments; Abbreviations; Nomenclature; Chapter 1: From Green Chemistry to Green Engineering - Fostered by Novel Process Windows Explored in Micro-Process Engineering/Flow Chemistry; 1.1 Prelude - Potential for Green Chemistry and Engineering; 1.2 Green Chemistry; 1.3 Green

Engineering; 1.4 Micro- and Milli-Process Technologies; 1.5 Flow Chemistry; 1.6 Two Missing Links - Cross-Related; References; Chapter 2: Novel Process Windows
2.1 Transport Intensification - The Potential of Reaction Engineering 2.2 Chemical Reactivity in Match or Mismatch to Intensified Engineering; 2.3 Chemical Intensification through Harsh Conditions - Novel Process Windows; 2.4 Flash Chemistry; 2.5 Process-Design Intensification; References; Chapter 3: Chemical Intensification - Fundamentals; 3.1 Length Scale; 3.2 Time Scale; 3.3 Length and Time Scale of Chemical Reactions; 3.4 Temperature Intensification; 3.5 Pressure Intensification; References; Chapter 4: Making Use of the "Forbidden" - Ex-Regime/High Safety Processing
4.1 Hazardous Reactants and Intermediates 4.2 Ex-Regime and Thermal Runaway Processing; References; Chapter 5: Exploring New Paths - New Chemical Transformations; 5.1 Direct Syntheses via One Step; 5.2 Direct Syntheses via Multicomponent Reactions; 5.3 Multistep One-Flow Syntheses; 5.4 Multistep Syntheses in One Microreactor/Chip; 5.5 Multistep Syntheses in Coupled Microreactors/Chips; References; Chapter 6: Activate - High-T Processing; 6.1 Tailored High-T Microreactor Design and Fabrication; 6.2 Cryogenic to Ambient - Allowing Fast Reactions to be Fast
6.3 From Reflux to Superheated - Speeding-Up Reactions 6.4 Solvent-Scope Widening by Virtue of Pressurizing Existing High-T Reactions; 6.5 New Temperature Field for Product and Material Control; 6.6 Energy Activation Other than Temperature - Photo, Electrochemical, Plasma; References; Chapter 7: Press - High-p Processing; 7.1 Tailored High-p Microreactor Design and Fabrication; 7.2 High Pressure to Intensify Interfacial Transport in Gas-Liquid Reactions; 7.3 Pressure as Direct Means - Activation Volume Effects and More
7.4 Pressure for Advanced Fluidic Studies - to be Used for Shaping Materials and More References; Chapter 8: Collide and Slide - High-c and Tailored-Solvent Processing; 8.1 Batch Process-Based Inspirations for High-c Flow Processes; 8.2 Solvent-Free or Solvent-Less Operation - "Highest-c"; 8.3 Supercritical Fluids to Combine the Former Separated - Mass Transfer Boost; References; Chapter 9: Doing More by Combining - Process Integration; 9.1 Integration of Reaction and Cooling/Heating, Separation, or Other; 9.2 Integration of Process Control and Sensing
9.3 Thermal Integration on a Process Level

Sommario/riassunto

This book introduces the concept of novel process windows, focusing on cost improvements, safety, energy and eco-efficiency throughout each step of the process. The first part presents the new reactor and process-related technologies, introducing the potential and benefit analysis. The core of the book details scenarios for unusual parameter sets and the new holistic and systemic approach to processing, while the final part analyses the implications for green and cost-efficient processing. With its practical approach, this is invaluable reading for those working in the pharmaceutical, fine