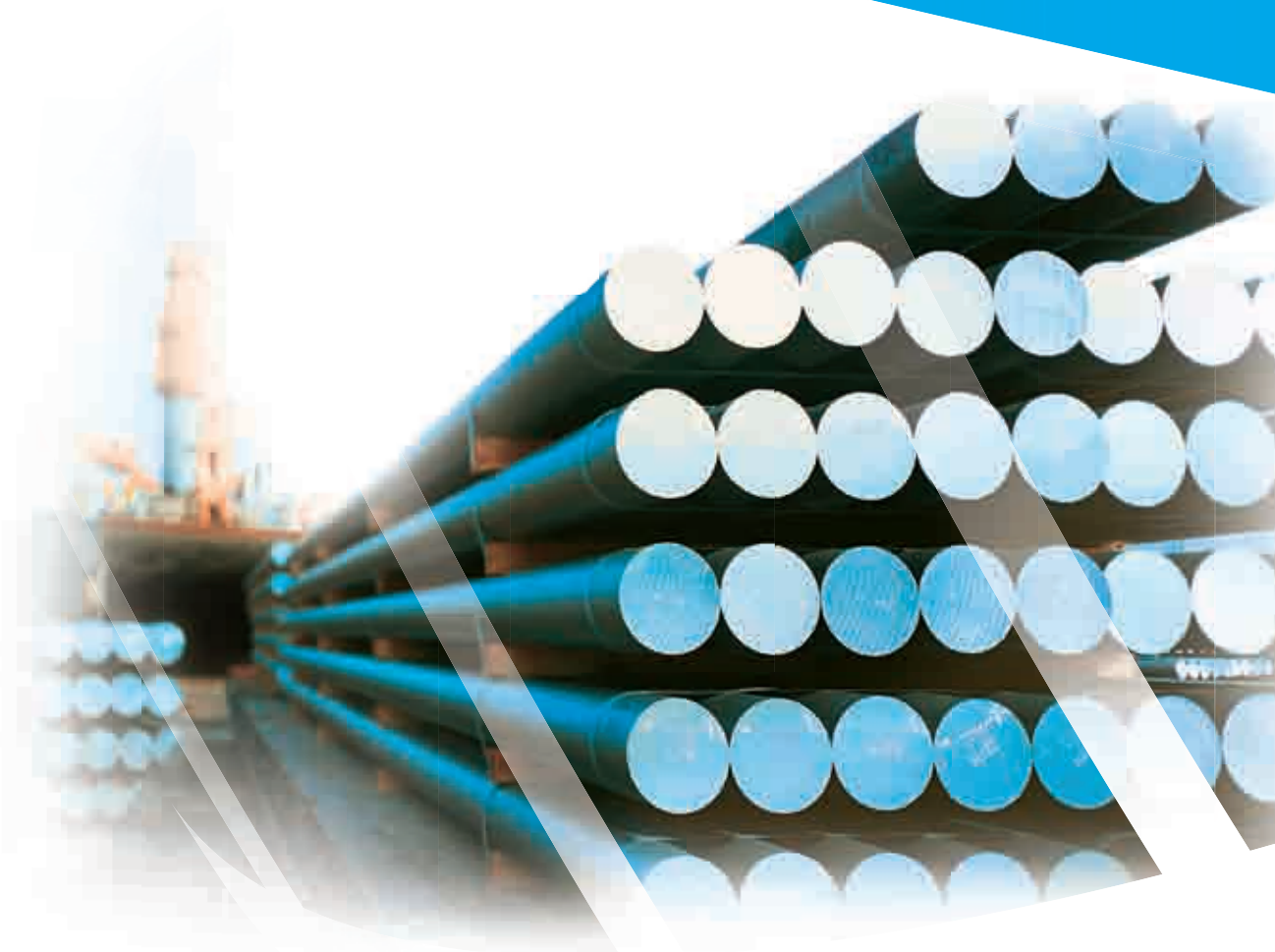


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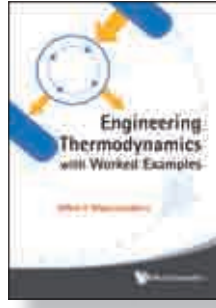
Civil Engineering Catalogue 2012

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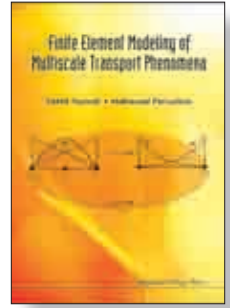
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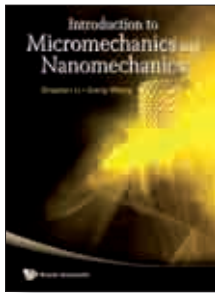
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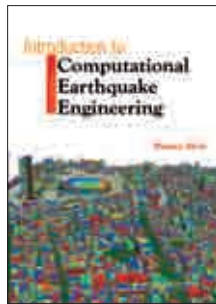
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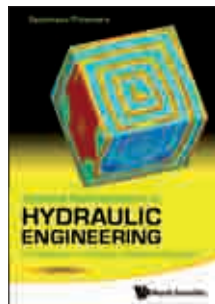
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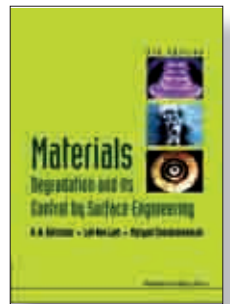
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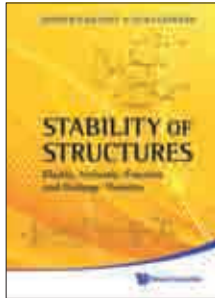
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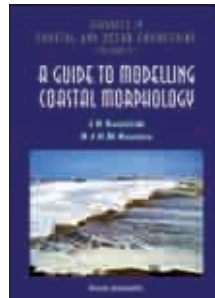
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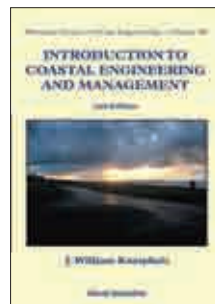
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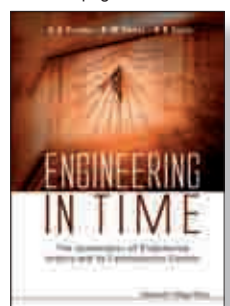
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# C O N T E N T S

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## Architecture and Building Management

Bestseller

### MAINTAINABILITY OF FACILITIES: For Building Professionals

by **Yit Lin Chew, Michael** (National University of Singapore)

This book focuses on spearheading the integration of maintainability, starting from the design stage. To enable such integration, improving the knowledge of maintainability and setting maintainability benchmarks are two key issues. These objectives are fulfilled with the development of a comprehensive defect library, a material manual and a maintainability scoring system. These tools serve to define acceptable standards in design and construction practices, thus enhancing long-term maintainability of facilities.

**Readership:** Practitioners and students in architecture and building management.

544pp Jan 2010  
978-981-4291-75-0 US\$82 £54



Bestseller

### FINITE ELEMENT MODELING OF MULTISCALE TRANSPORT PHENOMENA

by **Vahid Nassehi** (Loughborough University, UK) & **Mahmoud Parvazini** (Iran Polymer and Petrochemical Institute, Iran)

Due to the importance of the described multiscale processes in applications such as separation processes, reaction engineering and environmental systems analysis, a sound knowledge of such methods is essential for many researchers and design engineers who wish to develop reliable solutions for industrially-relevant problems. The main scope of this book is to provide an authoritative description of recent developments in the field of finite element analysis, with a particular emphasis on the multiscale finite element modeling of transport phenomena and flow problem.

**Readership:** Graduate students, researchers and engineers in the field of mechanical engineering, chemical engineering, material engineering, civil engineering, applied mathematics and physics.

280pp Oct 2010  
978-1-84816-429-1 US\$73 £51



Bestseller

### CONSTRUCTION TECHNOLOGY FOR TALL BUILDINGS (3rd Edition)

by **Yit Lin Chew, Michael** (National University of Singapore)

This book introduces the latest construction practices and processes for tall buildings from foundation to roof. It attempts to acquaint readers with the methods, materials, equipment and systems used for the construction of tall buildings. The text progresses through the stages of site investigation, excavation and foundations, basement construction, structural systems for the superstructure, site and material handling, wall and floor construction, cladding and roof construction. The construction sequence, merits and limitations of the various proprietary systems commonly used in these respective stages are discussed. This third edition also includes several new topics not covered in the previous edition.

**Readership:** Undergraduate students and practitioners in architecture, civil engineering, building, real estate, construction, project and facilities management, and quantity and land surveying.

416pp Jan 2009  
978-981-281-861-4(pbk) US\$69 £45



Highly Recommended

### TENSOR ANALYSIS WITH APPLICATIONS IN MECHANICS

by **Leonid P Lebedev** (National University of Colombia, Colombia)

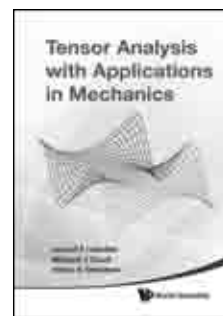
& **Rostov State University, Russia), Michael J Cloud** (Lawrence Technological University, USA) &

**Victor A Eremeyev** (Martin-Luther-University Halle-Wittenberg, Germany, Russian Academy of Science, Russia & Southern Federal University, Russia)

This book is a clear, concise, and self-contained treatment of tensors, tensor fields, and their applications. It contains practically all the material on tensors needed for applications. It shows how this material is applied in mechanics, covering the foundations of the linear theories of elasticity and elastic shells. Each chapter of this new edition is supplied with exercises and problems — mostly with solutions, hints, or answers to help readers progress. An extended appendix serves as a handbook-style summary of all important formulas contained in the book.

**Readership:** Undergraduates and graduate students in engineering and physics, engineers, physicists and applied mathematicians.

380pp May 2010  
978-981-4313-12-4 US\$107 £74  
978-981-4313-99-5(ebook) US\$139



## Applications In Civil Engineering

Bestseller

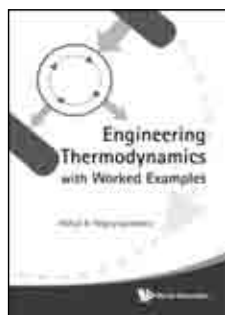
### ENGINEERING THERMODYNAMICS WITH WORKED EXAMPLES

by **Nihal E Wijeyesundera** (National University of Singapore)

This book includes all the subject matter covered in typical undergraduate courses in engineering thermodynamics. Each worked example is designed to be representative of a class of physical problems. At the end of each chapter, there are an additional 10 to 15 problems for which numerical answers are provided. Supplementary materials are available upon request for all instructors who chose to adopt this book as a course text.

**Readership:** Undergraduate and graduate students in mechanical engineering, chemical engineering, civil engineering, electrical & electronic engineering, bioengineering, applied physics and thermodynamics.

724pp Nov 2010  
978-981-4293-13-6 US\$148 £98  
978-981-4293-14-3(pbk) US\$78 £51



## Highly Recommended

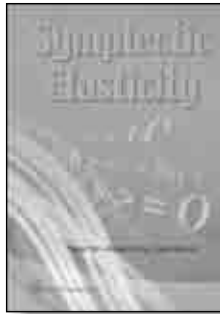
**SYMPLECTIC ELASTICITY**

by **Weian Yao, Wanxie Zhong** (Dalian University of Technology, P R China) & **Chee Wah Lim** (City University of Hong Kong, Hong Kong, SAR)

This book explains the new solution methodology by discussing plane isotropic elasticity, multiple layered plate, anisotropic elasticity, sectorial plate and thin plate bending problems in detail. A number of existing problems without analytical solutions within the framework of classical approaches are solved analytically using this symplectic approach. Symplectic methodologies can be applied not only to problems in elasticity, but also to other solid mechanics problems.

**Readership:** Undergraduate and postgraduate students majoring in engineering mechanics or having it as an elective; researchers in solid mechanics.

316pp Feb 2009  
978-981-277-870-3 US\$110 £72  
978-981-277-872-7(ebook) US\$143



## Bestseller

**INTRODUCTION TO MICROMECHANICS AND NANOMECHANICS**

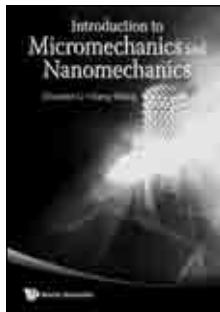
by **Shaofan Li** (University of California at Berkeley, USA) & **Gang Wang** (Hong Kong University of Science and Technology, China)

*"This new book furnishes a most comprehensive and self-contained introduction to the state-of-the-art knowledge of micromechanics and nanomechanics. In addition, the way that the book is organized is very logical with clear presentations and the examples and exercises included are excellent. These features make the book a very suitable, competitive and excellent textbook."*

**Xin-Lin Gao, Texas A&M University**

**Readership:** Researchers and educators in academics, first year graduate students in engineering mechanics, materials science, nanotechnology, mechanical engineering, civil engineering, and applied mechanics.

516pp Jul 2008  
978-981-281-413-5 US\$107 £56  
978-981-281-414-2(pbk) US\$65 £33



## Bestseller

Series on Hydraulic Machinery - Vol. 2

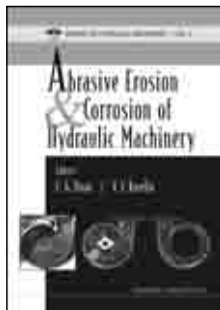
**ABRASIVE EROSION AND CORROSION OF HYDRAULIC MACHINERY**

edited by **C G Duan** (International Research Center on Hydraulic Machinery, Beijing, China) & **V Y Karelin** (Moscow State University of Civil Engineering, Russia)

This book provides a systematic exposition of abrasive erosion and corrosion of hydraulic machinery in both theory and engineering practice, and is also the first comprehensive volume to cover this area in an in-depth manner. All the important subjects are discussed including fundamentals, calculation, analysis and numerical simulation of liquid-solid flow design, erosion-resistant materials, interaction between cavitation and abrasive erosion, as well as corrosion of hydraulic machinery.

**Readership:** Upper level undergraduates, graduate students, researchers, academics and industrialists in mechanical, civil and electrical & electronic engineering.

424pp Jan 2003  
978-1-86094-335-5 US\$208 £137  
978-1-84816-002-6(ebook) US\$270



## Bestseller

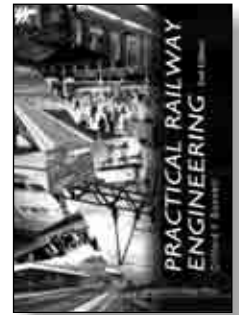
**PRACTICAL RAILWAY ENGINEERING (2nd Edition)**

by **Clifford F Bonnett** (C. Eng., F.I.C.E., F.I. Struct. E.)

In the second edition, the illustrations have been improved and dated, particularly with the introduction of 30 colour pages which include many newly-taken photographs. The text has been reviewed for present-day accuracy and, where necessary, has been modified or expanded to include references to recent trends or developments. New topics include automatic train control, level crossings, dot matrix indicators, measures for the mobility impaired, reinforced earth structures, air conditioning, etc. Recent railway experiences, both technical and political, have also been reflected in the commentary.

**Readership:** Academics, consulting engineers in the railway field and graduates in transportation.

212pp Jun 2005  
978-1-86094-515-1 US\$98 £51  
978-1-86094-685-1(ebook) US\$101



## Bestseller

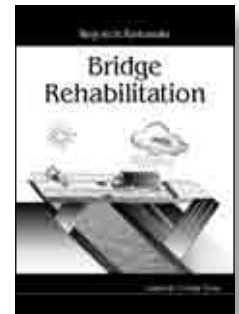
**BRIDGE REHABILITATION**

by **Wojciech Radomski** (Warsaw University of Technology, Poland)

This book covers in synthetic form nearly all the most important problems concerning bridge rehabilitation, such as bridge superstructure and substructure, the typical damage observed in bridges as well as the assessment and evaluation techniques of their technical condition. The book is intended mainly for postgraduate university students. Therefore, all the problems are mostly presented in their physical, chemical, technical as well as economical aspects.

**Readership:** Students and researchers in civil engineering.

492pp Oct 2002  
978-1-86094-122-1 US\$92 £60  
978-1-86094-792-6(ebook) US\$120



## Bestseller

Computational and Experimental Methods in Structures - Vol. 3

**MULTISCALE MODELING IN SOLID MECHANICS**

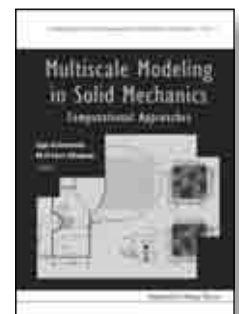
Computational Approaches

edited by **Ugo Galvanetto** (Imperial College London, UK) & **M H Ferri Aliabadi** (Imperial College London, UK)

This unique volume presents the state of the art in the field of multiscale modeling in solid mechanics, with particular emphasis on computational approaches. The book begins with a detailed introduction to the theories on which different multiscale approaches are based, with regards to linear Homogenisation as well as various nonlinear approaches. It then presents advanced applications of multiscale approaches applied to nonlinear mechanical problems. Finally, the novel topic of materials with self-similar structure is discussed.

**Readership:** Researchers and academics in the field of heterogeneous materials and mechanical engineering; professionals in aeronautical engineering and materials science.

352pp Sep 2009  
978-1-84816-307-2 US\$163 £107  
978-1-84816-308-9(ebook) US\$212



## Earthquake Engineering

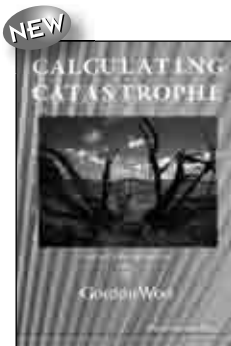
### CALCULATING CATASTROPHE

by **Gordon Woo**

This book explains the underlying quantitative basis for understanding catastrophe phenomena, both natural and man-made. The catastrophes covered range from geological, meteorological and hydrological hazards to political violence, industrial, ecological and financial risk.

**Readership:** Applied mathematicians, earth and atmospheric scientists, civil engineers, geographers and economists.

<b>350pp</b>	<b>Jul 2011</b>	
<b>978-1-84816-738-4</b>	<b>US\$79</b>	<b>£52</b>
<b>978-1-84816-739-1 (pbk)</b>	<b>US\$29</b>	<b>£19</b>
<b>978-1-84816-740-7 (ebook)</b>	<b>US\$103</b>	



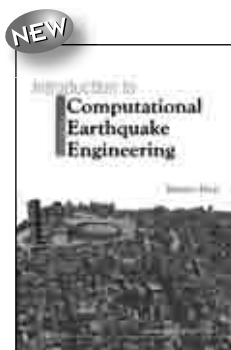
### INTRODUCTION TO COMPUTATIONAL EARTHQUAKE ENGINEERING (2nd Edition)

by **Muneo Hori** (University of Tokyo, Japan)

*Introduction to Computational Earthquake Engineering* covers solid continuum mechanics, finite element method and stochastic modeling comprehensively, with the second and third chapters explaining the numerical simulation of strong ground motion and faulting, respectively. Stochastic modeling is used for uncertain underground structures, and advanced analytical methods for linear and non-linear stochastic models are presented.

**Readership:** Academic and industry: engineers, students; advanced undergraduates in the field of earthquake engineering.

<b>350pp</b>	<b>Aug 2011</b>	
<b>978-1-84816-397-3</b>	<b>US\$111</b>	<b>£76</b>
<b>978-1-84816-398-0 (pbk)</b>	<b>US\$73</b>	<b>£51</b>
<b>978-1-84816-399-7 (ebook)</b>	<b>US\$144</b>	



### Bestseller

### DESIGN OF PILE FOUNDATIONS IN LIQUEFIABLE SOILS

by **Gopal Madabhushi** (University of Cambridge, UK), **Jonathan Knappett** (University of Dundee, UK) & **Stuart Haigh** (University of Cambridge, UK)

This book provides designers and practicing civil engineers with sound knowledge of pile behaviour in liquefiable soils and easy-to-use methods to design pile foundations in seismic regions. For graduate students and researchers, it brings together the latest research findings on pile foundations in a way that is relevant to geotechnical practice.

**Readership:** Researchers, academics, designers and graduate students in earthquake engineering, civil engineering and ocean/coastal engineering.

<b>232pp</b>	<b>Sep 2009</b>	
<b>978-1-84816-362-1</b>	<b>US\$92</b>	<b>£60</b>
<b>978-1-84816-363-8 (ebook)</b>	<b>US\$120</b>	



### Journal



### Journal of Earthquake and Tsunami (JET)

<http://www.worldscinet.com/jet/>

#### About JET: Aims & Scope

*Journal of Earthquake and Tsunami* provides a common forum for scientists and engineers working in the areas of earthquakes and tsunamis to communicate and interact with one another and thereby enhance the opportunities for such cross-fertilization of ideas. The Journal publishes original papers pertaining to state-of-the-art research and development in Geological and Seismological Setting; Ground Motion, Site and Building Response; Tsunami Generation, Propagation, Damage and Mitigation, as well as Education and Risk Management following an earthquake or a tsunami.

#### Abstracting/Indexing

- Science Citation Index Expanded (also known as SciSearch(r))
- Journal Citation Reports/Science Edition

#### Managing Editors

**Fook Hou, Lee** (National University of Singapore)



Dr Lee is currently the Professor and Head of Civil Engineering Department at the National University of Singapore. He has a strong interest in earthquake soil-structure interaction, soil improvement as well as underground construction in urban areas. He is also a registered Professional Engineer (Civil) as well as Professional Engineer (Geotechnical Specialist) and regularly acts as a consultant.

To date, Dr Lee has consulted for more than 60 projects. He has published more than 100 papers, about 40 of which are in peer-reviewed journals. Dr Lee is an editorial board member for ASTM's Geotechnical Testing Journal (American Society for Testing and Materials) and the Chinese Journal of Geotechnical Engineering. He is also a member of World Federation of Engineering Organisation (WFEO) Committee Engineering And The Environment (WFEO-CEE) Task Group On Disaster Risk Management (DRM/WFEO-CEE).

**Hori Muneo** (University of Tokyo, Japan)



Professor Muneo is the Editor-in-Chief of the Journal of Earthquake Engineering and a Member of the Japan Council of Sciences. His research topics include Crust and Earthquake Engineering, Computational Engineering and Science for Developing Simulation Tools, and Applied Mechanics and Mathematics for Deformation and Fracture Process. In 1991, he won the Japan Society of Civil Engineers Yoshida Prize for Young Researchers and in 2004, he won the Best Paper Prize awarded by the Journal for Society of Geotechnical Engineering.

## Floods In Civil Engineering

### APPLIED UNCERTAINTY ANALYSIS FOR FLOOD RISK MANAGEMENT

edited by **Keith Beven** (*Lancaster University, UK*) & **Jim Hall** (*Newcastle University, UK*)

This volume provides an introduction for flood risk management practitioners, up-to-date methods for analysis of uncertainty and its use in risk-based decision making. It addresses decision-making for both short term (real-time forecasting) and long term (flood risk planning under change) situations. It aims primarily at technical practitioners involved in flood risk analysis and flood warning, including hydrologists, engineers, flood modelers, risk analysts and those involved in the design and operation of flood warning systems.

**Readership:** Hydrologists, civil engineers, meteorologists, flood risk managers, environmental scientists, hydraulic engineers and consultants.

500pp  
978-1-84816-270-9 US\$110 £73  
978-1-84816-271-6(ebook) US\$179

### FLOOD HAZARD IDENTIFICATION AND MITIGATION IN SEMI- AND ARID ENVIRONMENTS

edited by **Richard H French** (*University of Texas at San Antonio, USA*) & **Julianne J Miller** (*Desert Research Institute, USA*)

The purpose of this volume is to summarize the current state-of-the-art, from the viewpoint of engineering, in the identification and mitigation of flood hazard on alluvial fans. And to accomplish this, a fundamental understanding of geology is required.

**Readership:** Graduate students and practitioners in the field of water resource management, environmental engineering and civil engineering.

350pp  
978-981-4355-09-4 US\$118 £77  
978-981-4355-10-0(ebook) US\$153

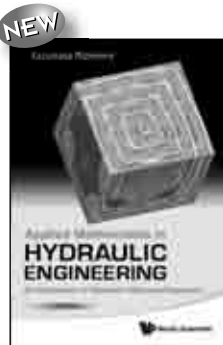
### APPLIED MATHEMATICS IN HYDRAULIC ENGINEERING

An Introduction to Nonlinear Differential Equations  
by **Kazumasa Mizumura**  
(*Kanazawa Institute of Technology, Japan*)

*Applied Mathematics in Hydraulic Engineering* is an excellent teaching guide and reference to treating nonlinear mathematical problems in hydraulic, hydrologic and coastal engineering. Undergraduates studying civil and coastal engineering, as well as analysis and differential equations, start off by applying calculus to the treatment of nonlinear partial differential equations, before being given the chance to practice real-life problems related to the fields. This textbook is not only a good source of teaching materials for teachers or instructors, but is also useful as a comprehensive resource of mathematical tools to researchers.

**Readership:** Undergraduate and graduate students studying civil and coastal engineering, and teachers and researchers in the above mentioned fields.

420pp  
978-981-4299-55-8 US\$88 £57  
978-981-4299-56-5(ebook) US\$114



## Structural and Surface Engineering

### NONLOCAL CONTINUUM DAMAGE AND PLASTICITY

Theory and Computations  
by **Rashid K Abu Al-Rub** (*Texas A&M University, USA*)

This book discusses the integral and gradient formulations of nonlocality, computational aspects, and comparison of approaches-and emphasizes recent developments in the bridging of material length scales.

**Readership:** Researchers in the academic community, national laboratories in materials and solid mechanics, companies in engineering mechanics and materials, and graduate students.

600pp  
978-981-281-397-8 US\$144 £100  
978-981-281-398-5(ebook) US\$187

### STRUCTURAL INTEGRITY CONSIDERATIONS IN ENGINEERING DESIGN: Introduction to Structural Integrity and Basic Fatigue Design (Volume I)

by **David W Hoepfner** (*University of Utah, USA*)

This book deals with the concepts of structural integrity from safe life to damage tolerance to holistic structural integrity processes, which are all part of a reliability-centered closed loop design approach.

**Readership:** Upper-class undergraduate and graduate students, academics, and industry professionals in the field of structural integrity, and general management of reliability and quality.

500pp  
978-1-86094-950-0 US\$111 £76  
978-1-86094-951-7(ebook) US\$144

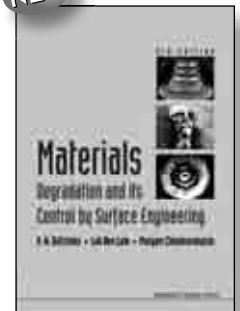
### MATERIALS DEGRADATION AND ITS CONTROL BY SURFACE ENGINEERING (3rd Edition)

by **Andrew W Batchelor** (*previously Monash University, Malaysia*), **Nee Lam Loh** (*Nanyang Technological University, Singapore*) & **Margam Chandrasekaran** (*Bio-Scaffold International Pte Ltd, Singapore*)

This book provides a general holistic view of materials degradation without undue emphasis on aqueous corrosion with the neglect of other important topics such as liquid metal corrosion. Discussion of materials degradation is balanced by detailed description and evaluation of surface engineering as a means of managing materials degradation.

**Readership:** Engineers and scientists in materials engineering, surface science, materials science (general), materials chemistry and surface and interface chemistry.

420pp  
978-1-84816-501-4 US\$138 £91  
978-1-84816-502-1(ebook) US\$179



## FRACTURE MECHANICS OF ELECTROMAGNETIC MATERIALS: Nonlinear Field Theory and Applications

by Xiaohong Chen (*Sikorsky Aircraft Corporation, USA*) & Yiu-Wing Mai (*University of Sydney, Australia*)

NEW

*Fracture Mechanics of Electromagnetic Materials* provides a comprehensive overview of fracture mechanics of conservative and dissipative materials, as well as a general formulation of nonlinear field theory of fracture mechanics and a rigorous treatment of dynamic crack problems involving coupled magnetic, electric, thermal and mechanical field quantities.

**Readership:** Graduate students, academic researchers and engineering specialists in fracture mechanics.

300pp Dec 2011  
 978-1-84816-663-9 US\$88 £55  
 978-1-84816-664-6(ebook) US\$114

### Highly Recommended

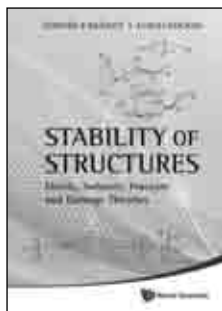
## STABILITY OF STRUCTURES: Elastic, Inelastic, Fracture and Damage Theories

by Zdeněk P Bažant (*Northwestern University, USA*) & Luigi Cedolin (*Politecnico di Milano, Italy*)

The authors' focus on the understanding of the basic principles rather than excessive detailed solutions, and their treatment of each subject proceed from simple examples to general concepts and rigorous formulations. All the results are derived using as simplified mathematics whenever possible. Numerous examples and 700 exercise problems contribute to a firm grasp of this central aspect of solid mechanics.

**Readership:** Advanced undergraduates and graduate students, academia and researchers in structural stability.

1040pp Aug 2010  
 978-981-4317-02-3 US\$150 £93  
 978-981-4317-03-0(pbk) US\$55 £34  
 978-981-4317-04-7(ebook) US\$195



### Highly Recommended

## FRACTURE AND LIFE

by Brian Cotterell (*University of Sydney, Australia*)

This book is an interdisciplinary review of the effect of fracture on life, following the development of the understanding of fracture written from a historical perspective. After a short introduction to fracture, the first section of the book covers the effects of fracture on the evolution of the Earth, plants and animals, and man. The second section of the book covers the largely empirical control of fracture from ancient times to the end of the nineteenth century. The final section reviews the development of fracture theory as a discipline and its application during the twentieth century through to the present time.

**Readership:** Advanced undergraduates, graduates, post-doctoral fellows and professionals engaged in any discipline that entails an understanding of fracture.

500pp Mar 2010  
 978-1-84816-282-2 US\$125 £83  
 978-1-84816-283-9(ebook) US\$163



### Bestseller

Engineering Materials for Technological Needs - Vol. 2

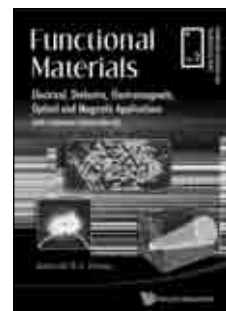
## FUNCTIONAL MATERIALS: Electrical, Dielectric, Electromagnetic, Optical and Magnetic Applications (With Companion Solution Manual)

by Deborah D L Chung (*State University of New York at Buffalo, USA*)

*Functional Materials* assumes that the readers have had a one-semester introductory undergraduate course on materials science. The coverage on functional materials is much broader and deeper than that of an introductory materials science course. This book features hundreds of illustrations to the explanatory of concepts and provide quantitative information. The style is general towards tutorial. Most chapters include sections on example problems, review questions and supplementary reading.

**Readership:** Undergraduate students, graduate students and professionals in most branches of engineering, specifically materials, electrical, mechanical, aerospace, chemical and civil engineering. Relevant professionals include engineers, scientists, researchers, technicians and technology managers.

364pp Mar 2010  
 978-981-4287-15-9 US\$85 £56  
 978-981-4287-16-6(pbk) US\$45 £30



### Highly Recommended

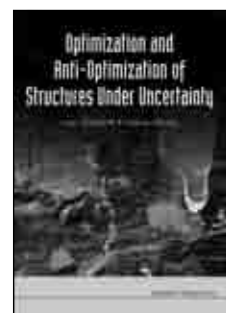
## OPTIMIZATION AND ANTI-OPTIMIZATION OF STRUCTURES UNDER UNCERTAINTY

by Isaac Elishakoff (*Florida Atlantic University, USA*) & Makoto Ohsaki (*Kyoto University, Japan*)

Currently the only book that covers the combination of optimization and anti-optimization, this book vividly demonstrates how the concept of uncertainty should be incorporated in a rigorous manner during the process of designing real-world structures. The necessity of anti-optimization approach is first demonstrated, then the anti-optimization techniques are applied to static, dynamic and buckling problems, thus covering the broadest possible set of applications.

**Readership:** Graduate students, professionals and academics in the field of mechanical engineering.

424pp Mar 2010  
 978-1-84816-477-2 US\$127 £84  
 978-1-84816-478-9(ebook) US\$165



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NEW

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This is a three-volume selection of classical papers by Michael Longuet-Higgins, who for many years has been a leading researcher in the fast-developing field of physical oceanography. Some of these papers were first published in scientific journals or in conference proceedings that are now difficult to access. All the papers are characterized by the novelty of their content, and the clarity of their style and exposition. The papers are quite varied in their approach. They range from basic theory and new computational methods to laboratory experiments and field observations. An overall feature is the frequent comparison between theory and experiment and the constant attention given to practical applications.

**Readership:** Graduate students and researchers in ocean engineering, fluid dynamicists and physical oceanographers.

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1950pp May 2011  
978-981-4322-51-5 US\$440 £303

Advanced Series on Ocean Engineering

### LIQUEFACTION AROUND MARINE STRUCTURES

NEW

by **Mutlu Sumer** (*Technical University of Denmark, Denmark*)

This book, whose primary aim is to describe liquefaction processes and their implications for marine structures such as pipelines, sea outfalls, quay walls and caisson breakwaters, discusses the subject of soil liquefaction in the marine environment. In addition, the physics of liquefaction (including examples illustrating the catastrophic consequences of soil liquefaction with regard to marine structures) are described, and the mathematical modelling of liquefaction is treated in detail. Also, carefully selected numerical examples support the discussion of assessing liquefaction potential, and benchmark cases such as buried gas pipelines and their floatation, caisson breakwaters, cover stones and their interaction with liquefied soil along with counter measures are investigated.

**Readership:** Professionals and researchers in the area of coastal, ocean and marine civil engineering; graduate and post graduate students.

300pp Sep 2013  
978-981-4329-31-6 US\$95 £59  
978-981-4335-10-2(ebook) US\$124

### COASTAL MANAGEMENT IN THE FACE OF CLIMATE CHANGE

NEW

by **Dominic Reeve** (*University of Plymouth, UK*)

This book highlights major concepts developed in the last 20 years or so for assessing the performance of coastal defences. The chapters comprehensively cover practical aspects of beach monitoring, estimating the nearshore wave conditions, quantifying the littoral drift environment, predicting changes in beach configuration, and the integration of the various components into a coherent management framework. Several examples of applications of the methods are given to illustrate the advantages and limitations of the different techniques, together with a case study from the south coast of the UK. It brings together in one book material that is currently dispersed across many sources which are not easy for the non-expert to access.

**Readership:** Graduate students, practitioners, and researchers in coastal engineering, civil engineering, environmental management and planning and environmental engineering.

200pp Apr 2011  
978-1-84816-583-0 US\$88 £61  
978-1-84816-584-7(ebook) US\$114

### FROM WAVES IN COMPLEX SYSTEMS TO DYNAMICS OF GENERALIZED CONTINUA

NEW

Tributes to Professor Yih-Hsing Pao on His 80th Birthday edited by **Kolumban Hutter** (*Darmstadt University of Technology, Germany*), **Tsung-Tsong Wu** (*National Taiwan University, Taiwan*) & **Yi-Chung Shu** (*National Taiwan University, Taiwan*)

The book reviews recent research activities in applied mechanics and applied mathematics such as the fields of solid & fluid constitutive modeling for coupled fields, applications of geophysical & environmental context in judicious numerical-computational implementations. The book aims to merge foundation aspects of continuum mechanics with modern technological applications, notably on reviewing recent advances in the treated subjects in an attractive presentation accessible to a wide readership of engineering and applied sciences.

**Readership:** Researchers, professionals, and graduate students in applied mechanics, and mathematics, energy studies, solid & fluid mechanics, and complex systems.

400pp Sep 2011  
978-981-4340-71-7 US\$135 £84  
978-981-4340-72-4(ebook) US\$176

Advances in Coastal and Ocean Engineering

### A GUIDE TO MODELLING COASTAL MORPHOLOGY

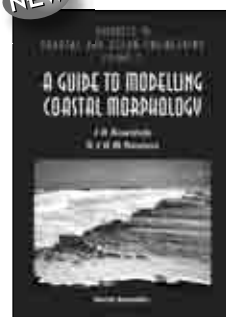
NEW

by **J A Roelvink** (*UNESCO-IHE, The Netherlands*) & **A J H M Reniers** (*University of Miami, USA & Delft University of Technology, The Netherlands*)

Process-based morphodynamic modelling is one of the relatively new tools at the disposal of coastal scientists, engineers and managers. On paper, it offers the possibility to analyse morphological processes and to investigate the effects of various measures one might consider to alleviate some problems. For these to be applied in practice, a model should be relatively straightforward to set up. In a nutshell, this book provides an in-depth review of ways to model coastal processes, including many hands-on exercises.

**Readership:** Graduate students and professionals in ocean engineering, geology/earth science, and oceanography.

250pp Apr 2011  
978-981-4304-25-2 US\$112 £77  
978-981-4304-26-9(ebook) US\$146



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This invaluable volume set of Advances in Geosciences continues the excellent tradition of the Asia-Oceania scientific community in providing the most up-to-date research results on a wide range of geosciences and environmental science.

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Advanced Series on Ocean Engineering

**DYNAMICS OF FLOATING OFFSHORE STRUCTURES**

by **Subrata K Chakrabarti** (*Offshore Structure Analysis, Inc., USA*)



This book will provide a complete coverage on the dynamics of floating offshore structures. Topics such as random waves, wind and current will be developed from the fundamental principles and their applications to offshore structures will be discussed. The design aspect of the offshore structure, both for short-term and long-term response and structural fatigue, are important elements of the dynamic response and will be further elaborated upon in the text.

**Readership:** Senior undergraduate, graduates and researchers in offshore and ocean engineering.

600pp  
 978-981-4280-55-6 Dec 2011 US\$95 £63  
 978-981-4280-56-3(pbk) US\$55 £36

**Bestseller**

Advanced Series on Ocean Engineering - Vol. 31

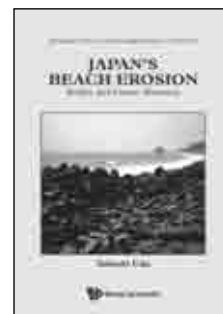
**JAPAN'S BEACH EROSION: Reality and Future Measures**

by **Takaaki Uda** (*Public Works Research Center, Japan*)

Textbooks on coastal engineering, that were already published, describe only the theoretical fundamentals of the subject, but lack the practical perspectives and field studies. The book examines many coastal areas as examples, highlighting the various erosion factors which should be avoided elsewhere globally. This book was first published in Japanese in 2004, and was translated into English by the present author.

**Readership:** Coastal engineers and general readers interested in beach erosion.

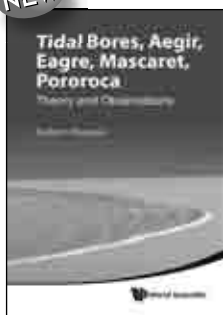
428pp Jun 2010  
 978-981-4277-12-9 US\$111 £76  
 978-981-4277-13-6(ebook) US\$144



**TIDAL BORES, AEGIR, EAGRE, MASCARET, POROROCA: Theory and Observations**

by **Hubert Chanson** (*The University of Queensland, Australia*)

This book demystifies the physics of a tidal bore and it thoroughly documents the tidal bores on our planet with reliable and accurate information. It aims to cultivate a passion for a beautiful, but fragile geophysical process, with in-depth updated content with over 190 illustrations and photographs.



**Readership:** Undergraduate and graduate students, researchers and general public interested in tidal bores.

300pp Jun 2011  
 978-981-4335-41-6 US\$96 £60  
 978-981-4335-42-3(ebook) US\$125

**Bestseller**

Advanced Series on Ocean Engineering - Vol. 33

**RANDOM SEAS AND DESIGN OF MARITIME STRUCTURES (3rd Edition)**

by **Yoshimi Goda** (*Yokohama National University, Japan*)

Random waves are the most important constituent of the sea environment, as they make the design of maritime structures quite different from that of structures on land. In this book, the concept of random waves for the design of breakwaters, seawalls, and harbor structures is fully explored for easy comprehension by practicing engineers. Theoretical aspects are also discussed in detail for further studies by graduate students and researchers.

**Readership:** Advanced undergraduate and graduate students, and practitioners in coastal and harbor engineering.

732pp Jun 2010  
 978-981-4282-39-0 US\$160 £99  
 978-981-4282-40-6(pbk) US\$78 £48



Advanced Series on Ocean Engineering

**COASTAL DYNAMICS**

by **Willem T Bakker** (*Delft Hydraulics, Netherlands*)



Our world is constantly changing, governed by continuity, dynamic interactions and boundary conditions. For many coasts, the common denominators contributing to these changes are sand, waves, tides, salt gradients, and human interaction, all of which are themes included in this valuable textbook. Confining itself to essentials, the coverage reflects centuries of theoretical and practical knowledge of Dutch coastal engineers. Focusing, where applicable, on linear theory, the book shows how the essentials of local coastal behavior can be reproduced and predicted.

**Readership:** Graduate students and researchers in ocean and coastal engineering and management.

600pp Jun 2011  
 978-981-270-373-6 US\$160 £104  
 978-981-281-423-4(ebook) US\$208

**Bestseller**

Advanced Series on Ocean Engineering - Vol. 30

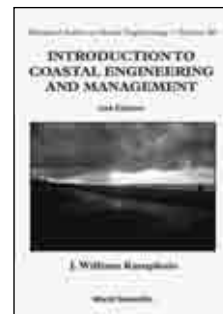
**INTRODUCTION TO COASTAL ENGINEERING AND MANAGEMENT (2nd Edition)**

by **J William Kamphuis** (*Queen's University, Canada*)

This book reflects on newly relevant issues, such as the consequences of failure of the impacts of rising sea levels, aging infrastructure, real estate development, and contemporary decision making, design and education. It discusses the traditional methods of analysis and synthesis (design), but also contemporary design taking into account environmental impacts, consequences of failure, and current concerns such as global warming, aging infrastructure, working with stakeholder groups, regulators, etc. This second edition expands greatly on the topics of failure and resilience that surfaced as a result of recent disasters from hurricane surges and tsunamis. It updates the discussion of design and decision making in the 21st century, with many new examples presented.

**Readership:** Undergraduate and graduate students, researchers and academics in coastal engineering and management.

564pp May 2010  
 978-981-283-484-3 US\$108 £67  
 978-981-283-485-0(pbk) US\$58 £36



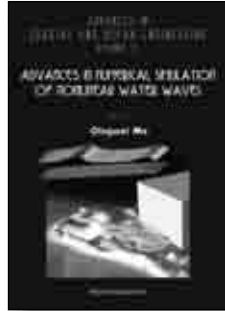
**Bestseller**

Advances in Coastal and Ocean Engineering - Vol. 11  
**ADVANCES IN NUMERICAL SIMULATION OF NONLINEAR WATER WAVES**

edited by **Qingwei Ma** (City University, London, UK)

This book provides a comprehensive overview of the state-of-the-art research and key achievements in numerical modeling of nonlinear water waves, and serves as a unique reference for postgraduates, researchers and senior engineers working in industry.

**Readership:** Postgraduates, researchers and engineers in numerical modeling of nonlinear water waves.



**700pp** **Apr 2010**  
**978-981-283-649-6** **US\$156 £107**  
**978-981-283-650-2(ebook)** **US\$203**

**Bestseller**

Advanced Series on Ocean Engineering - Vol. 32  
**TSUNAMI: To Survive from Tsunami**

by **Susumu Murata** (Coastal Development Institute of Technology, Japan), **Fumihiko Imamura** (Tohoku University, Japan), **Kazumasa Katoh** (Musashi Institute of Technology, Japan), **Yoshiaki Kawata** (Kyoto University, Japan), **Shigeo Tahashi** (Port and Airport Research Institute, Japan) & **Tomotsuka Takayama** (Kyoto University, Japan)

*“Even for research engineers in the field of coastal engineering, this book is indispensable for depicting real images of tsunami threat. By reading the book, a researcher will realize the importance of his or her study of tsunami disaster mitigation.”*

**Professor Emeritus Yoshimi Goda,**  
**Yokohama National University**

**Readership:** Undergraduates and graduates interested in tsunamis, tsunami mitigation planners, oceanographers and physicists, especially residents in tsunami-prone areas.



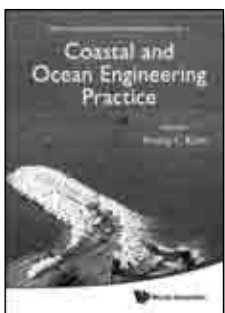
**316pp** **Oct 2009**  
**978-981-4277-47-1** **US\$48 £36**  
**978-981-4277-49-5(ebook)** **US\$62**

**Bestseller**

Series on Coastal and Ocean Engineering Practice - Vol. 1  
**COASTAL AND OCEAN ENGINEERING PRACTICE**  
 edited by **Young C Kim** (California State University, Los Angeles, USA)

This book focuses on the latest technology applied in design and construction, effective engineering methodology, unique projects and problems, design and construction challenges, and other lessons learned. In addition, unique practices in planning, design, construction, maintenance, and performance of coastal and ocean projects will be explored.

**Readership:** Graduates and researchers in coastal, ocean, civil and geotechnical engineering.

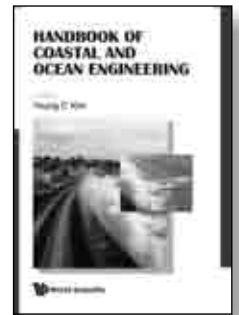


**400pp** **Oct 2011**  
**978-981-4360-56-2** **US\$128 £84**  
**978-981-4360-57-9(ebook)** **US\$166**

**Bestselling Handbook**

**HANDBOOK OF COASTAL AND OCEAN ENGINEERING**  
 edited by **Young C Kim** (California State University, Los Angeles, USA)

More than 70 internationally-recognized authorities in the field of coastal and ocean engineering have contributed articles on their areas of expertise to this handbook. These international luminaries are from highly respected universities and renowned research and consulting organizations from all over the world. This handbook provides a comprehensive overview of shallow-water waves, water level fluctuations, coastal and offshore structures, port and harbors, coastal sediment processes, environmental problems, coastal hazards, physical modeling, and other issues in coastal and ocean engineering.



**Readership:** Graduate students, researchers and professionals in coastal and ocean engineering, oceanography and meteorology.

**1192pp** **Sep 2009**  
**978-981-281-929-1** **US\$252 £166**  
**978-981-281-930-7(ebook)** **US\$328**

**Bestseller**

Advanced Series on Ocean Engineering - Vol. 29  
**COASTAL AND ESTUARINE PROCESSES**  
 by **Peter Nielsen** (The University of Queensland, Australia)

*“Whether it concerns waves, nearshore hydrodynamics or estuarine hydraulics Peter Nielsen has a personal, extremely instructive way to present solutions that provide practical insight for everyone interested in coastal and estuarine processes. The final chapter on ground water dynamics addresses an issue that receives too little attention. In short, this book should be within reach on your bookshelf.”* **Marcel Stive,**  
**Delft University of Technology, The Netherlands**

**Readership:** Undergraduate and graduate students, researchers and engineers in coastal, civil and environmental engineering.

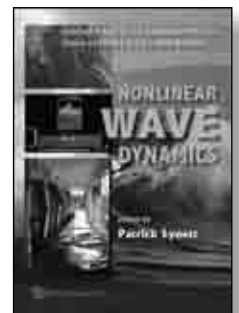


**360pp** **Apr 2009**  
**978-981-283-711-0** **US\$93 £76**  
**978-981-283-712-7(pbk)** **US\$61 £51**

**Bestseller**

**NONLINEAR WAVE DYNAMICS**  
 Selected Papers of the Symposium Held in Honor of Philip L-F Liu's 60th Birthday  
 edited by **Patrick Lynett** (Texas A&M University, USA)

This volume is a compilation of the research papers presented at the symposium, and includes both review and new research papers. Topics such as nonlinear wave theory, tsunamis, wave-structure interaction, turbulence, and modeling of complex sediment transport are discussed in this volume. All of the contributing authors are research collaborators of Prof. Liu, and include leaders in coastal engineering such as Maarten Dingemans, Hwung-Hweng Hwung, Nobu Kobayashi, Inigo Losada, Hocine Oumeraci, Costas Synolakis, and Harry Yeh.



**Readership:** Graduate students, academics and researchers in coastal and ocean engineering and fluid mechanics.

**316pp** **Feb 2009**  
**978-981-270-903-5** **US\$112 £74**  
**978-981-270-904-2(ebook)** **US\$146**

**Bestseller**

Advanced Series on Ocean Engineering - Vol. 28

**COASTAL PROCESSES: Concepts in Coastal Engineering and Their Applications to Multifarious Environments**by **Tomoya Shibayama** (*Yokohama National University, Japan*)

This book provides us with important concepts in coastal engineering, their applications to coastal processes and disaster prevention works. It describes basic concepts of coastal engineering, dealing mainly with wave-induced physical problems in the field of coastal engineering and hydraulics, progress of coastal sediment transport and coastal disasters.

**Readership:** Senior undergraduate and graduate students, researchers, academics and engineers in coastal and ocean engineering.



228pp                      Dec 2008  
 978-981-281-395-4      US\$82    £54  
 978-981-281-396-1(ebook) US\$107

**Bestseller**

Advances in Coastal and Ocean Engineering - Vol. 10

**ADVANCED NUMERICAL MODELS FOR SIMULATING TSUNAMI WAVES AND RUNUP**edited by **Philip L-F Liu** (*Cornell University, USA*),**Harry Yeh** (*Oregon State University, USA*) &**Costas Synolakis** (*University of Southern California, USA*)

This review volume is divided into two parts. The first part includes five review papers on various numerical models. Pedersen provides a brief but thorough review of the theoretical background for depth-integrated wave equations, which are employed to simulate tsunami runup. LeVeque and George describe high-resolution finite volume methods for solving the nonlinear shallow water equations. The focus of their discussion is on the applications of these methods to tsunami runup.

**Readership:** Graduate students and researchers in ocean and coastal engineering.



344pp                      Sep 2008  
 978-981-270-012-4      US\$111   £73  
 978-981-279-091-0(ebook) US\$144

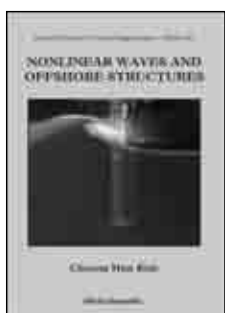
**Bestseller**

Advanced Series on Ocean Engineering - Vol. 27

**NONLINEAR WAVES AND OFFSHORE STRUCTURES**by **Cheung Hun Kim** (*Texas A&M University, USA*)

This book deals with analyses of nonlinear problems encountered in the design of offshore structures, as well as those that are of immediate practical interest to ocean engineers and designers. It presents conclusions drawn from recent research pertinent to nonlinear waves and their effects on the responses of offshore structures. Theories, observations and analyses of laboratory and field experiments are expounded such that the nonlinear effects can be clearly visualized.

**Readership:** Ocean engineers.

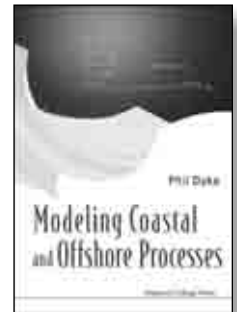


540pp                      May 2008  
 978-981-02-4884-0      US\$134   £75  
 978-981-02-4885-7(pbk) US\$81    £45

**Bestseller****MODELING COASTAL AND OFFSHORE PROCESSES**by **Phil Dyke** (*University of Plymouth, UK*)

Modeling is now a major tool for important environmental strategies. This book allows the non-specialist reader to understand and criticize current models of the shallow sea and coastal environments. Sufficient background on mathematics and statistics is covered, but readers disinclined to spend time on this may use the book as a reference guide in modeling. Topics include the numerical schemes used, modeling the sea bed, modeling shallow sea dynamics and, unusually for this type of book, modeling ecosystems and animals.

**Readership:** Researchers in coastal oceanography, ecosystems dynamics and marine biological modeling; final year undergraduate or postgraduate students in civil engineering, coastal engineering, environmental science and marine science.



412pp                      Apr 2007  
 978-1-86094-674-5      US\$137   £90  
 978-1-86094-675-2(pbk) US\$80    £53  
 978-1-86094-837-4(ebook) US\$178

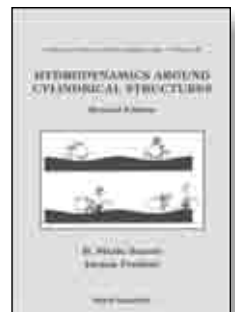
**Bestseller**

Advanced Series on Ocean Engineering - Vol. 26

**HYDRODYNAMICS AROUND CYLINDRICAL STRUCTURES (Revised Edition)**by **B Mutlu Sumer** (*Technical University of Denmark, Denmark*) &**Jørgen Fredsøe** (*Technical University of Denmark, Denmark*)

The primary aim of the book is to describe the flow pattern and the resulting load which develops when waves or current meet a cylinder. Special attention is paid to circular cylinder. The development in the forces is related to the various flow patterns and is discussed in detail. Regular as well as irregular waves are considered, and special cases like wall proximities (pipelines) are also investigated.

**Readership:** PhD and MSc students with some experience in basic fluid mechanics, and consulting companies in the areas of marine, offshore, coastal and civil engineering.



548pp                      Sep 2006  
 978-981-270-039-1      US\$208   £137  
 978-981-277-277-0(ebook) US\$270

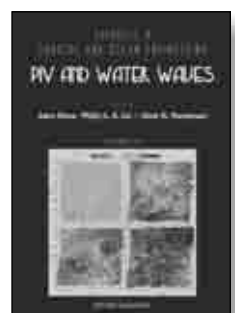
**Bestseller**

Advances in Coastal and Ocean Engineering - Vol. 9

**PIV AND WATER WAVES**edited by **John Grue** (*University of Oslo, Norway*), **Philip L-F Liu**(*Cornell University, USA*) & **Geir K Pedersen** (*University of Oslo, Norway*)

This volume introduces particle image velocimetry (PIV), a technique for water wave measurement in the laboratory and in the open ocean. It discusses the turbulent dissipation, Reynolds stresses and vortical structures in boundary layers of the sea bed, as well as ships, ship wakes, propulsion hydrodynamics, cavitation and free surface waves.

**Readership:** Graduate students, researchers and practitioners in ocean and environmental engineering as well as fluid mechanics.



352pp                      Oct 2004  
 978-981-238-914-5      US\$175   £116  
 978-981-238-949-7(pbk) US\$89    £59  
 978-981-279-661-5(ebook) US\$228

**Bestseller**

Advanced Series on Ocean Engineering - Vol. 18

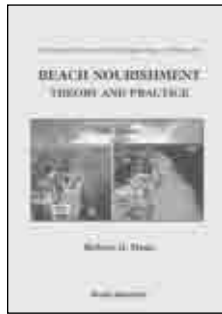
**BEACH NOURISHMENT: Theory and Practice**

by **Robert G Dean** (University of Florida, USA)

This book is written for engineers, students of coastal processes and laypersons interested in beach nourishment, which consists of the placement of large quantities of good quality sediment on the beach to advance the shoreline seaward. The improvement of project performance through proper design and the predictability of performance are emphasized. The overall longevity of a project is addressed, as are local erosional areas.

**Readership:** Engineers and geologists.

**420pp** **Jan 2003**  
**978-981-02-1547-7** **US\$108** **£75**  
**978-981-02-1548-4(pbk)** **US\$54** **£37**  
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Advanced Series on Ocean Engineering - Vol. 22

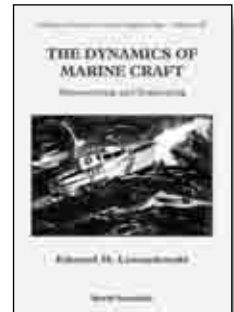
**THE DYNAMICS OF MARINE CRAFT: Maneuvering and Seakeeping**

by **Edward M Lewandowski** (BMT Designers & Planners, VA, Arlington, USA)

This book presents a theoretical treatment, as well as a summary of practical methods of computation, of the forces and moments that act on marine craft. Its aim is to provide the tools necessary for the prediction or simulation of craft motions in calm water and in waves. In addition to developing the required equations, the author gives relations that permit at least approximate evaluation of the coefficients so that useful results can be obtained. The approach begins with the equations of motion for rigid bodies, relative to fixed- and moving-coordinate systems; then, the hydrodynamic forces are examined, starting with hydrostatics and progressing to the forces on a moving vehicle in calm water and (after a review of water-wave theory) in waves.

**Readership:** Advanced undergraduates, graduate students and practicing professionals in ocean engineering.

**424pp** **Jul 2004**  
**978-981-02-4755-3** **US\$153** **£101**  
**978-981-02-4756-0(pbk)** **US\$78** **£51**  
**978-981-256-267-8(ebook)** **US\$199**



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Advanced Series on Ocean Engineering - Vol. 20

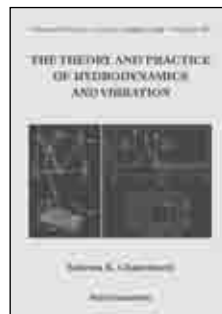
**THE THEORY AND PRACTICE OF HYDRODYNAMICS AND VIBRATION**

by **Subrata K Chakrabarti** (Offshore Structure Analysis, Inc, Illinois, USA)

"It is a useful text for a course in which the practical application of tools learned in other courses in an engineering curriculum is investigated. It is also useful for a first course on fluid-structure interaction... a textbook that provides a reasonably good overview of the fundamentals of engineering science and a discussion on how the fundamentals are applied to solve practical problems." **Journal of Offshore Mechanics and Arctic Engineering**

**Readership:** Upper level undergraduates, post-graduates, academics and practitioners in mechanical and civil engineering.

**484pp** **Nov 2002**  
**978-981-02-4921-2** **US\$92** **£69**  
**978-981-02-4922-9(pbk)** **US\$52** **£39**  
**978-981-277-765-2(ebook)** **US\$120**



**Bestseller**

Advanced Series on Ocean Engineering - Vol. 19

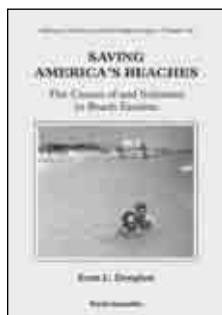
**SAVING AMERICA'S BEACHES: The Causes of and Solutions to Beach Erosion**

by **Scott L Douglass** (University of South Alabama, USA)

"This book of 91 pages should be required reading for the general public who visit and are interested in beaches. It is a delightfully easy read, well illustrated with color photographs of a variety of beach scenes, many of them quite beautiful and there is not a single equation in the entire book which must have been difficult for Douglass, an engineer! ... Good advice for preserving America's beaches from a knowledgeable coastal engineer who has done his homework and provided the documentation to support his prescription!" **Robert G Dean, University of Florida**

**Readership:** Undergraduates in marine sciences, earth sciences and civil engineering; coastal management professionals; and lay people.

**104pp** **Aug 2002**  
**978-981-238-097-5(pbk)** **US\$49** **£32**  
**978-981-277-690-7(ebook)** **US\$64**



**Journals**

**Coastal Engineering Journal (CEJ)**

<http://www.worldscinet.com/cej/>

**CEJ's Impact Factor has improved from 0.29 in 2007 and 0.692 in 2008 to 1.026 in 2009!**

**Honorary Editor: Yoshimi Goda**, Professor Emeritus at Yokohama National University

**Editor-in-Chief: Norimi Mizutani**, Nagoya University

**About CEJ: Aims & Scope**

*Coastal Engineering Journal* is a peer-reviewed medium for the publication of research achievements and engineering practices in the fields of coastal, harbor and offshore engineering. The *CEJ* editors welcome original papers and comprehensive reviews on waves and currents, sediment motion and morphodynamics, as well as on structures and facilities. Reports on conceptual developments and predictive methods of environmental processes are also published. Topics also include hard and soft technologies related to coastal zone development, shore protection, and prevention or mitigation of coastal disasters.

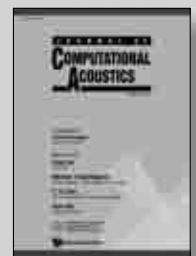


**Journal of Computational Acoustics (JCA)**

<http://www.worldscinet.com/jca/>

**About JCA: Aims & Scope**

Topics covered by this journal include research and tutorial contributions in OCEAN ACOUSTICS (a subject of active research in relation with sonar detection and the design of noiseless ships), SEISMO-ACOUSTICS (of concern to earthquake science and engineering, and also to those doing underground prospecting like searching for petroleum), AEROACOUSTICS (which includes the analysis of noise created by aircraft), COMPUTATIONAL METHODS, and SUPERCOMPUTING. In addition to the traditional issues and problems in computational methods, the journal also considers theoretical research acoustics papers which lead to large-scale scientific computations.



## General Titles

Advances in Computational Fluid Dynamics - Vol. 1

**COMPUTATIONAL METHODS FOR TWO-PHASE FLOWS**by **Peter D M Spelt** (*Imperial College London, UK*), **Stephen J Shaw** (*Xi'an Jiaotong — University of Liverpool, Suzhou, China*) & **Hang Ding** (*University of California, Santa Barbara, USA*)

This book uniquely presents an overview of methods for the numerical simulation of a wide range of two-phase flows, aimed at a broad readership of engineers and scientists at graduate level. Given that numerous methods have been proposed recently in this field, the new book series could not have been more timely and much needed for an up-to-date overview of the advances, whilst not restricting the focus on two-phase flows or any particular method. The book is written by a team of leading experts who have contributed substantially to the development of the methods and who have also applied the concepts and theories to a diverse range of applications.

**Readership:** Scientists and engineers in the field of computational fluid dynamics of two-phase flows.

350pp Feb 2011  
978-981-4280-97-6 US\$111 £76  
978-981-4280-98-3(ebook) US\$144

NEW

Bestseller

**DIMENSIONAL ANALYSIS AND INTELLIGENT EXPERIMENTATION**by **Andrew C Palmer** (*National University of Singapore*)

"Andrew Palmer presents a well-informed and detailed book built on examples from a wide variety of backgrounds ... This book is a valuable read for students wishing to gain more from dimensional, and others who are concerned with designing intelligent experiments based on dimensional analysis." **Assembly Automation Industrial Robot Sensor Review**

**Readership:** Undergraduate and graduate (MSc) students interested in dimensional analysis.

164pp Jun 2008  
978-981-270-818-2 US\$51 £29  
978-981-270-819-9(pbk) US\$33 £20



Series on Quality Reliability and Engineering Statistics

**DESIGN FOR SIX SIGMA FOR ENGINEERS**by **Matthew Hu** (*Wayne State University, USA*), **Kai Yang** (*Wayne State University, USA*), **Michael Sheh** (*Engineous Software Inc., USA*) & **Malik Kayupov** (*Engineous Software Inc., USA*)

In this comprehensive volume, the four-phase IDOV — Identify-Design-Optimize-Verify — Design for Six Sigma (DFSS) methodology is discussed in detail. The various practices from inventive design methodologies, deterministic and stochastic numerical methods, and the use of CAE simulation techniques, are mapped to the DFSS procedure. Many case studies are used to illustrate how tools are used in DFSS processes. Written by DFSS practitioners and technologists, this book is intended for any engineer to use as a reference in executing DFSS projects.

**Readership:** Graduate students, engineers and industrialists interested in the Design for Six Sigma methodology.

500pp Apr 2011  
978-981-256-063-6 US\$115 £76  
978-981-283-335-8(ebook) US\$150

NEW

Bestseller

**INTELLIGENT TRANSPORT SYSTEMS IN EUROPE: Opportunities for Future Research**

edited by **Mike McDonald** (*University of Southampton, UK*), **Richard Hall** (*University of Southampton, UK*), **Hartmut Keller** (*TRANSVER, Germany*), **Christoph Hecht** (*TRANSVER, Germany*), **Oliver Fakler** (*TRANSVER, Germany*), **Job Klijnhout** (*Rijkswaterstaat, The Netherlands*), **Vito Mauro** (*MIZAR, Italy*) & **Angela Spence** (*MIZAR, Italy*)

This book provides valuable insight and critical appraisal of key areas of intelligent transport systems (ITS) for land transport in Europe. ITS is becoming increasingly important as the means to improving the efficiency, safety and comfort of the transportation of people and goods while at the same time helping to minimize environmental damage and the contribution of transport to global warming.

**Readership:** Graduate students, researchers and professionals in transport and transport research.

336pp Oct 2006  
978-981-270-082-7 US\$155 £102  
978-981-277-261-9(ebook) US\$202

Series on Quality Reliability and Engineering Statistics - Vol. 15

**BASICS OF RELIABILITY AND RISK ANALYSIS: Worked Out Problems and Solutions**by **Enrico Zio** (*École Centrale Paris, France & Politecnico di Milano, Italy*), **Piero Baraldi** (*Politecnico di Milano, Italy*) & **Francesco Cadini** (*Politecnico di Milano, Italy*)

Reliability and safety are fundamental attributes of any modern technological system. To achieve this, diverse types of protection barriers are placed as safeguards from the hazard posed by the operation of the system, within a multiple-barrier design concept. These barriers are intended to protect the system from failures of any of its elements, hardware, software, human and organizational. This exercise book serves as a complementary tool supporting the methodology concepts introduced in the books "An introduction to the basics of reliability and risk analysis" and "Computational methods for reliability and risk analysis" by Enrico Zio, in that it gives an opportunity to familiarize readers with the applications of classical and advanced techniques of reliability and risk analysis.

**Readership:** Graduate students and researchers in the field of reliability and risk analysis.

220pp Apr 2011  
978-981-4355-03-2 US\$68 £44

Set  
978-981-4360-68-5 US\$225 £148  
978-981-4355-04-9(ebook) US\$N/A



NEW

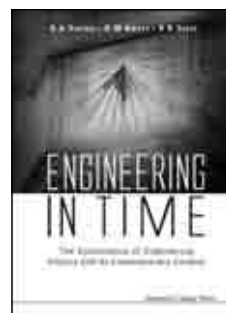
Bestseller

**ENGINEERING IN TIME: The Systematics of Engineering History and Its Contemporary Context**by **A A Harms** (*McMaster University, Canada*), **B W Baetz** (*Tulane University, USA*) & **R R Volti** (*Pitzer College, USA*)

The authors of this innovative text develop a systematic framework for engineering in time, making extensive use of adaptive heterogeneous progressions. When combined with the considerations of feedback, feed-forward, recursion, and branching, an evolving and comprehensive characterization of engineering becomes evident.

**Readership:** Senior engineering undergraduates and technology professionals.

348pp Jun 2004  
978-1-86094-433-8 US\$87 £60  
978-1-86094-598-4(ebook) US\$113



Journals

**International Journal of Applied Mechanics (IJAM)**

<http://www.worldscinet.com/ijam/ijam.shtml>

**About IJAM: Aims & Scope**

The journal has as its objective the publication and wide electronic dissemination of innovative and consequential research in applied mechanics. It welcomes high-quality original research papers in all aspects of applied mechanics from contributors throughout the world. The journal aims to promote international exchange of new knowledge and recent development information in all aspects of applied mechanics. In addition to covering the classical branches of applied mechanics, namely solid mechanics, fluid mechanics, thermodynamics, and material science, the journal also encourages contributions from the newly emerging areas such as biomechanics, electromechanics, the mechanical behavior of advanced materials, nanomechanics, and many other inter-disciplinary research areas in which the concepts of applied mechanics are extensively applied and developed. It explores analytical, computational and experimental progresses in all the abovementioned areas.



**About IJAM: Editorial Board**

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**Journal of Multiscale Modelling (JMM)**

<http://www.worldscinet.com/jmm/jmm.shtml>

**About JMM: Aims & Scope**

JMM is a relatively new research field which has – in a short time – a significant impact on many scientific and engineering disciplines including material science, fluid dynamics, chemistry, and biology. In these areas problems are often multiphysics and have important features at multiple scales, particularly multiple spatial scales.



JMM is an international peer-reviewed journal that presents forefront fundamental works in the abovementioned field of research. It features timely scientific reports of advances in modelling and computation, theoretical breakthroughs and also contains interesting review articles about emerging issues. It also provides a common platform for exchange of views and presentation of original papers (theoretical, computational and experimental) with a general emphasis on Multiscale issues in this rapidly developing field. Papers reporting advancement of the theory and applications of single scale problems (i.e. Nano, Micro, etc.) which pave the way for multiscale implementation are also appropriate for the journal.

**Editor-in-Chief**

M H Aliabadi (*Imperial College London*)

**Journal of Advanced Manufacturing Systems (JAMS)**

<http://www.worldscinet.com/jams/>

**About JAMS: Aims & Scope**

*Journal of Advanced Manufacturing Systems* publishes original papers pertaining to state-of-the-art research and development, product development, process planning, resource planning, applications, and tools in the areas related to advanced manufacturing.

**The journal addresses:**

Manufacturing Systems, Collaborative Design, Collaborative Decision-Making, Product Simulation, In-Process Modeling, Resource Planning, Resource Simulation, Tooling Design, Planning and Scheduling, Virtual Reality Technologies and Applications, CAD/CAE/ CAM Systems, Networking and Distribution, Supply Chain Management



**Abstracting/Indexing**

- Compendex

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**International Journal of Reliability, Quality and Safety Engineering (IJRQSE)**

<http://www.worldscinet.com/ijrqse/ijrqse.shtml>

**About IJRQSE: Aims & Scope**

*IJRQSE* is a refereed journal focusing on both the theoretical and practical aspects of reliability, quality, and safety in engineering. The journal is intended to cover a broad spectrum of issues in manufacturing, computing, software, aerospace, control, nuclear systems, power systems, communication systems, and electronics. Papers are sought in the theoretical domain as well as in such practical fields as industry and laboratory research. The journal is published quarterly: March, June, September and December. It is intended to bridge the gap between the theoretical experts and practitioners in the academic, scientific, government, and business communities. Review articles and case studies are also welcome in addition to innovative works in all key areas of the journal.



Submission topics include but are not limited to the following: Reliability, quality assurance and engineering, software, algorithms, design and manufacturing, fuzzy logic, reliability growth and prediction, safety engineering, software testing and reliability, modeling and control issues, concurrent engineering, optimization of system reliability, performance analysis of systems, quality planning and measurements, risk assessment and analysis, fault-tolerant computing, and critical systems design.

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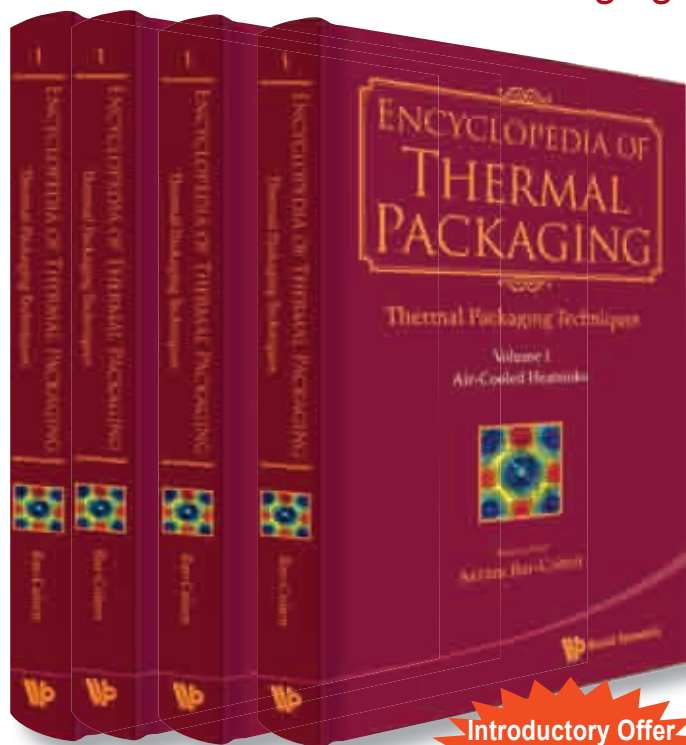


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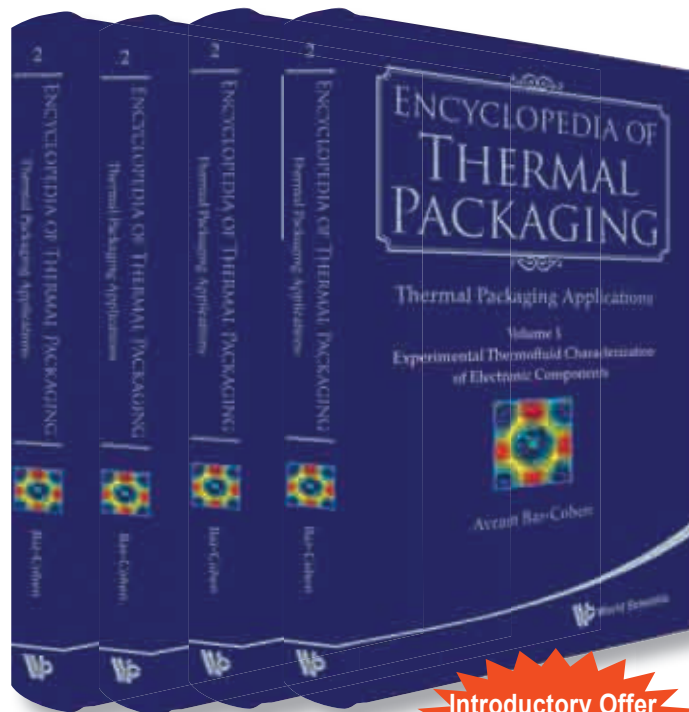
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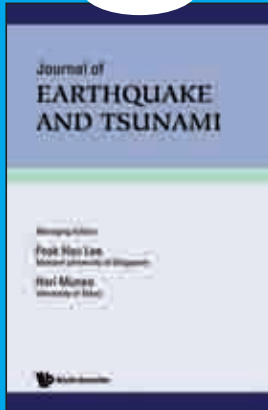
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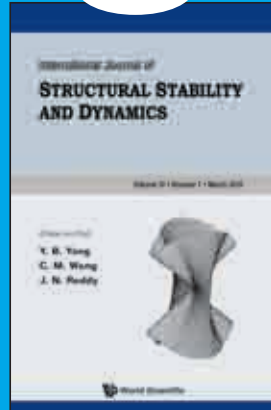
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