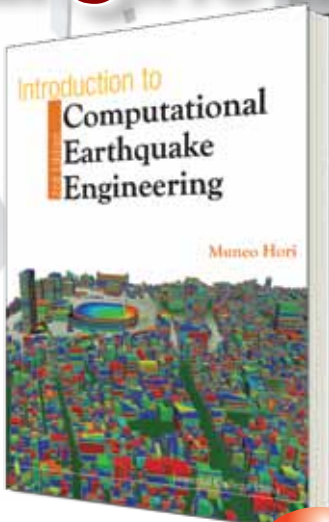


Civil and Earthquake Engineering Textbooks 2011/12



NEW

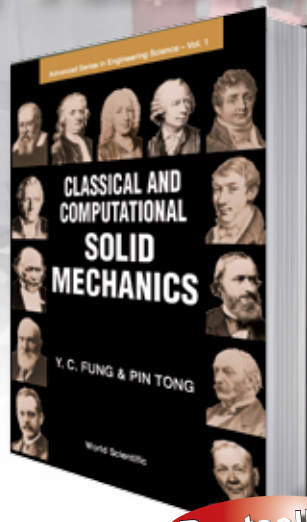
INTRODUCTION TO COMPUTATIONAL EARTHQUAKE ENGINEERING (2nd Edition)

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.

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



Bestseller

Advanced Series in Engineering Science - Vol. 1

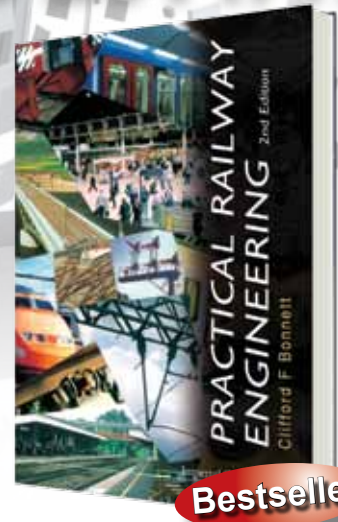
CLASSICAL AND COMPUTATIONAL SOLID MECHANICS

by Y C Fung (University of California, San Diego) & Pin Tong (Hong Kong University of Science & Technology)

"... this is a good, comprehensive, unified presentation of much of the field of solid mechanics, written by two well-regarded researchers in that field." **Applied Mechanics Reviews**

Readership: Graduate and senior undergraduate students as well as researchers in computational mechanics, civil engineering, mechanical engineering, bioengineering, aeronautics, astronautics and materials science.

952pp	Jun 2001	
978-981-02-3912-1	US\$124	£86
978-981-02-4124-7(pbk)	US\$62	£43



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 brought up to date, 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 reference 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 experience, both technical and political, has 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\$69	£47
978-1-86094-685-1(ebook)	US\$90	

HIGHLIGHTS

CONSTRUCTION TECHNOLOGY FOR TALL BUILDINGS (3rd Edition)

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

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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)

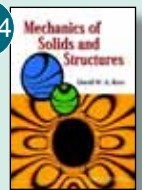
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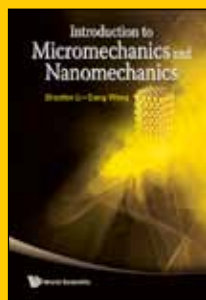
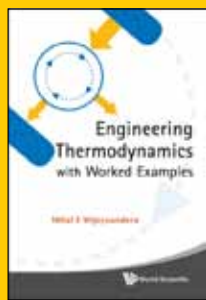


MECHANICS OF SOLIDS AND STRUCTURES

edited by David W A Rees (Brunel University, UK)

Pg 4





ENGINEERING THERMODYNAMICS WITH WORKED EXAMPLES

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

The book includes all the subject matter covered in a typical undergraduate course in engineering thermodynamics. It includes 20 to 25 worked examples for each chapter, carefully chosen to expose students to diverse applications of 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.

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

720pp Aug 2010
 978-981-4293-13-6 US\$148 £98
 978-981-4293-14-3(pbk) US\$78 £51

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\$61 £42

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, and the presentation is quite clear, and the examples and excises included are excellent. These make the book very suitable and competitive as an 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



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 right 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\$73 £51



FINITE ELEMENT MODELING OF MULTISCALE TRANSPORT PHENOMENA

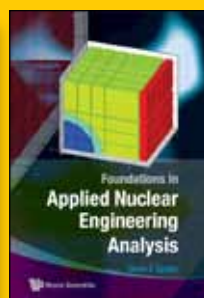
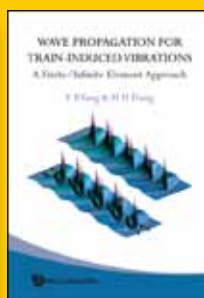
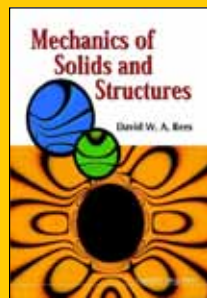
by **Vahid Nassehi** (Loughborough University, UK) & **Mahmoud Parvazini** (Iran Polymer and Petrochemical Institute, Iran)

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 Sep 2010
 978-1-84816-429-1 US\$73 £51





Top Adopted Textbooks

MECHANICS OF SOLIDS AND STRUCTURES

edited by **David W A Rees** (*Brunel University, UK*)

"... the book is a welcome addition to the existing teaching literature on solid mechanics. It will also be useful to mechanical, civil and aeronautical engineers." **Mathematics Abstracts**

Readership: Undergraduate and graduate students in mechanical, aeronautical, civil and materials engineering.

752pp **Apr 2000**
 978-1-86094-217-4 **US\$133 £92**
 978-1-86094-218-1 (pbk) **US\$77 £53**
 978-1-86094-306-5 (ebook) **US\$173**

BUILDING ACOUSTICS AND VIBRATION: Theory and Practice

by **Osama A B Hassan** (*Umeå University, Sweden*)

As a comprehensive reference dedicated to sound and vibration in buildings, Building Acoustics and Vibration addresses the basic and advanced principles that can be used to solve practical and theoretical problems typically encountered in building and architectural acoustic practices. In addition, physical and mathematical concepts are introduced and developed sufficiently to make this publication a self-contained and up-to-date source of information for readers.

Readership: Civil engineers, consultants in sound and vibration, building engineers, and graduate and post-graduate students in civil engineering.

972pp **Jun 2009**
 978-981-283-833-9 **US\$118 £82**

SYMPLECTIC ELASTICITY

by **Weian Yao** (*Dalian University of Technology, P R China*),
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\$97 £67**
 978-981-277-872-7 (ebook) **US\$126**

WAVE PROPAGATION FOR TRAIN-INDUCED VIBRATIONS: A Finite/Infinite Element Approach

by **Y B Yang** (*National Taiwan University, Taiwan*) & **H H Hung** (*National Center for Research on Earthquake Engineering, Taiwan*)

For buildings and factories located near railway or subway lines, the vibrations caused by the moving trains, especially at high speeds, may be annoying to the residents or detrimental to the high-precision production lines. However, there is a lack of simple and efficient tools for dealing with the kind of environmental vibrations, concerning simulation of the radiation of infinite boundaries; irregularities in soils, buildings and wave barriers; and dynamic properties of the moving vehicles. This book is intended to fill such a gap.

Readership: Senior undergraduate and graduate students, researchers and engineers in civil and structural engineering.

492pp **Jun 2009**
 978-981-283-582-6 **US\$126 £87**
 978-981-283-583-3 (ebook) **US\$164**

COMPRESSIBILITY OF ULTRA-SOFT SOIL

by **Myint Win Bo** (*DST Consulting Engineers Inc., Canada*)

This book describes the compression behavior of ultra-soft soil upon additional load application. Various types of laboratory compression tests suitable for this type of soil are discussed, such as tests using small- and large-scale consolidometers, hydraulic Rowe cells under different drainage conditions, constant rate of loading and constant rate of strain tests. It also explains how to determine the transition point, which differentiates the two distinct behaviors between slurry state and soil state deformation.

Readership: Graduate students, academics, researchers, engineers, and contractors in civil engineering, coastal engineering and geotechnical engineering.

332pp **Apr 2008**
 978-981-277-188-9 **US\$97 £67**
 978-981-277-189-6 (ebook) **US\$126**

FOUNDATIONS IN APPLIED NUCLEAR ENGINEERING ANALYSIS

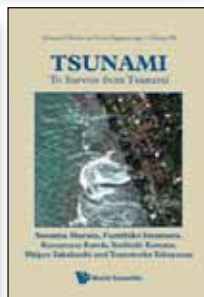
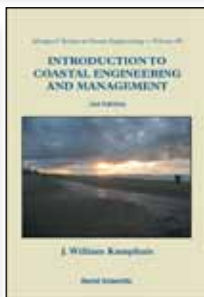
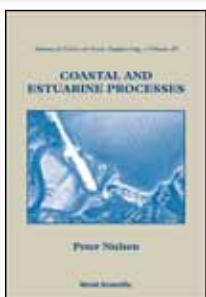
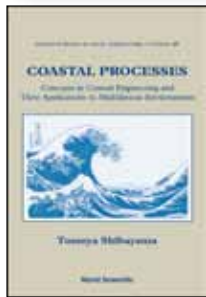
by **Glenn E Sjoden** (*University of Florida, USA*)

This text addresses a number of technical skills in mathematics, physics, and specific areas of nuclear engineering that will prepare the student for optimum performance in any nuclear engineering or medical physics curriculum. The book opens with fundamentals in probability and statistics, ODEs, series solutions, general differential equations, numerical methods, up through PDEs, and incorporates modeling and simulation, radiation, heat transfer, neutron diffusion problems, advanced solution methods, and engineering problem solving.

Readership: Undergraduates or first year graduate students in engineering, mathematical physics, applied physics and nuclear medicine.

304pp **Jul 2009**
 978-981-283-775-2 **US\$74 £56**
 978-981-283-776-9 (pbk) **US\$41 £31**

Ocean Engineering



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\$73** **£51**
978-981-281-396-1(ebook) **US\$95**

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 consequences of failure, 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**

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**

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)

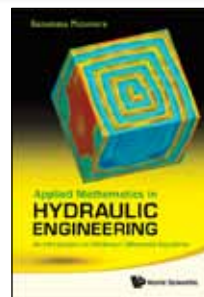
"Even for research engineers in the field of coastal engineering, this book is indispensable for depicting real images of tsunami threat. By reading the book, a researcher will realize the importance of his or her study of tsunami disaster mitigation." **Professor Emeritus Yoshimi Goda, Yokohama National 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**

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Forthcoming Textbooks



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, are started off applying calculus to the treatment of nonlinear partial differential equations, before 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 fields.

300pp **May 2011**
978-981-4299-55-8 **US\$67** **£46**
978-981-4299-56-5(ebook) **US\$87**

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 like random waves, wind and current, etc. 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 **Jun 2011**
978-981-4280-55-6 **US\$95** **£63**
978-981-4280-56-3(pbk) **US\$55** **£36**

NONLOCAL CONTINUUM DAMAGE AND PLASTICITY

Theory and Computations

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

Modeling of the evolution of distributed damage and plasticity such as micro-cracking, void formation, dislocation densities, and shear bands necessitates strain-softening constitutive models. 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 **Apr 2011**
978-981-281-397-8 **US\$144 £100**
978-981-281-398-5(ebook) **US\$187**

Advanced Series on Ocean Engineering

LIQUEFACTION AROUND MARINE STRUCTURES

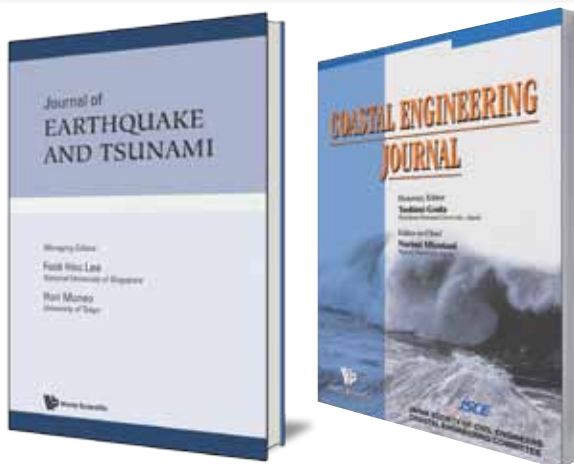
by **Mutlu Sumer** (Technical University of Denmark, Denmark)

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**

Journals



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®)
- Journal Citation Reports/Science Edition

Coastal Engineering Journal (CEJ)

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

CEJ's Impact Factor: 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. The journal is intended to cover not only fundamental studies on analytical models, numerical computation and laboratory experiments, but also results of field measurements and case studies of real projects.

Abstracting/Indexing

- SciSearch® (also known as Science Citation Index-Expanded)
- ISI Alerting Services
- Cambridge Scientific Index
- Environment Abstracts
- CSA Selected Water Resources Abstracts
- CSA Oceanic Abstracts
- CSA Health and Safety Abstracts
- CSA Aquatic Sciences and Fisheries Abstracts (ASFA)
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