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KEY=YSIS - HAROLD SWANSON

STRUCTURAL HEALTH MONITORING DAMAGE DETECTION SYSTEMS FOR AEROSPACE

Springer Nature This open access book presents established methods of structural health monitoring (SHM) and discusses their technological merit in the current aerospace environment. While the aerospace industry aims for weight reduction to improve fuel efficiency, reduce environmental impact, and to decrease maintenance time and operating costs, aircraft structures are often designed and built heavier than required in order to accommodate unpredictable failure. A way to overcome this approach is the use of SHM systems to detect the presence of defects. This book covers all major contemporary aerospace-relevant SHM methods, from the basics of each method to the various defect types that SHM is required to detect to discussion of signal processing developments alongside considerations of aerospace safety requirements. It will be of interest to professionals in industry and academic researchers alike, as well as engineering students.

SCIENTIFIC AND TECHNICAL AEROSPACE REPORTS

TECHNICAL ABSTRACT BULLETIN

THE NASTRAN PROGRAMMER'S MANUAL

FINITE ELEMENT ANALYSIS FOR BIOMEDICAL ENGINEERING APPLICATIONS

CRC Press Finite element analysis has been widely applied to study biomedical problems. This book aims to simulate some common medical problems using finite element advanced technologies, which establish a base for medical researchers to conduct further investigations. This book consists of four main parts: (1) bone, (2) soft tissues, (3) joints, and (4) implants. Each part starts with the structure and function of the biology and then follows the corresponding finite element advanced features, such as anisotropic nonlinear material, multidimensional interpolation, XFEM, fiber enhancement, UserHyper, porous media, wear, and crack growth fatigue analysis. The final section presents some specific biomedical problems, such as abdominal aortic aneurysm, intervertebral disc, head impact, knee contact, and SMA cardiovascular stent. All modeling files are attached in the appendixes of the book. This book will be helpful to graduate students and researchers in the biomedical field who engage in simulations of biomedical problems. The book also provides all readers with a better understanding of current advanced finite element technologies. Details finite element modeling of bone, soft tissues, joints, and implants Presents advanced finite element technologies, such as fiber enhancement, porous media, wear, and crack growth fatigue analysis Discusses specific biomedical problems, such as abdominal aortic aneurysm, intervertebral disc, head impact, knee contact, and SMA cardiovascular stent Explains principles for modeling biology Provides various descriptive modeling files

COMPUTATIONAL ACOUSTICS OF NOISE PROPAGATION IN FLUIDS - FINITE AND BOUNDARY ELEMENT METHODS

Springer Science & Business Media The book provides a survey of numerical methods for acoustics, namely the finite element method (FEM) and the boundary element method (BEM). It is the first book summarizing FEM and BEM (and optimization) for acoustics. The book shows that both methods can be effectively used for many other cases, FEM even for open domains and BEM for closed ones. Emphasis of the book is put on numerical aspects and on treatment of the exterior problem in acoustics, i.e. noise radiation.

INTRODUCTION TO THE FINITE ELEMENT METHOD

Pearson Providing a systematic approach and simple introduction of the finite element method, this self-contained book will enable the reader to obtain a clear understanding of the concepts involved in this traditionally complicated methodology.

VEHICLE NOISE AND VIBRATION REFINEMENT

Elsevier High standards of noise, vibration and harshness (NVH) performance are expected in vehicle design. Refinement is therefore one of the main engineering/design attributes to be addressed when developing new vehicle models and components. Vehicle noise and vibration refinement provides a review of noise and vibration refinement principles, methods, advanced experimental and modelling techniques and palliative treatments necessary in the process of vehicle design, development and integration in order to meet noise and vibration standards. Case studies from the collective experience of specialists working for major automotive companies are included to form an important reference for engineers practising in the motor industry who seek to overcome the technological challenges faced in developing quieter, more comfortable cars. The reader will be able to develop an in-depth knowledge of the source and transmission mechanisms of noise and vibration in motor vehicles, and a clear understanding of vehicle refinement issues that directly influence a customer's purchasing decision. Reviews noise and vibration refinement principles, methods and modelling techniques necessary in vehicle design, development and integration in order to meet noise and vibration standards Outlines objectives driving development and the significance of vehicle noise and vibration refinement whilst documenting definitions of key terms for use in practice Case studies demonstrate measurement and modelling in industry and illustrate key testing methods including hand sensing and environmental testing

FINITE ELEMENT ANALYSIS OF ACOUSTIC SCATTERING

Springer Science & Business Media A cognitive journey towards the reliable simulation of scattering problems using finite element methods, with the pre-asymptotic analysis of Galerkin FEM for the Helmholtz equation with moderate and large wave number forming the core of this book. Starting from the basic physical assumptions, the author methodically develops both the strong and weak forms of the governing equations, while the main chapter on finite element analysis is preceded by a systematic treatment of Galerkin methods for indefinite sesquilinear forms. In the final chapter, three dimensional computational simulations are presented and compared with experimental data. The author also includes broad reference material on numerical methods for the Helmholtz equation in unbounded domains, including Dirichlet-to-Neumann methods, absorbing boundary conditions, infinite elements and the perfectly matched layer. A self-contained and easily readable work.

THE NASTRAN THEORETICAL MANUAL

COMPUTERS IN MECHANICAL ENGINEERING

NON-DESTRUCTIVE TESTING AND REPAIR OF PIPELINES

Springer This book describes efficient and safe repair operations for pipelines, and develops new methods for the detection and repair of volumetric surface defects in transmission pipelines. It also addresses the physics, mechanics, and applications of advanced materials used for composite repair of corroded pipelines. Presenting results obtained in the European Commission's INNOPIPES FRAMEWORK 7 programme, it develops long-range ultrasonic and phased array technologies for pipeline diagnostics, and explores their interactions with discontinuities and directional properties of ultrasonic antenna array. The book subsequently shares the results of non-destructive testing for different types of materials applications and advanced composite repair systems, and characterizes the mechanical properties by means of fracture methods and non-destructive techniques. In turn, the book assesses the currently available technologies for reinforcement of pipelines, drawing on the experience gained by project partners, and evaluates the recovery of the carrying capacity of pipeline sections with local corrosion damage by means of analytical and numerical procedures. It develops an optimization method based on the planning of experiments and surface techniques for advanced composite repair systems, before validating the numerical models developed and experimentally gauging the effectiveness of composite repair with the help of full-scale hydraulic tests.

ANSYS MECHANICAL APDL FOR FINITE ELEMENT ANALYSIS

Butterworth-Heinemann ANSYS Mechanical APDL for Finite Element Analysis provides a hands-on introduction to engineering analysis using one of the most powerful commercial general purposes finite element programs on the market. Students will find a practical and integrated approach that combines finite element theory with best practices for developing, verifying, validating and interpreting the results of finite element models, while engineering professionals will appreciate the deep insight presented on the program's structure and behavior. Additional topics covered include an introduction to commands, input files, batch processing, and other advanced features in ANSYS. The book is written in a lecture/lab style, and each topic is supported by examples, exercises and suggestions for additional readings in the program documentation. Exercises gradually increase in difficulty and complexity, helping readers quickly gain confidence to independently use the program. This provides a solid foundation on which to build, preparing readers to become power users who can take advantage of everything the program has to offer. Includes the latest information on ANSYS Mechanical APDL for Finite Element Analysis Aims to prepare readers to create industry standard models with ANSYS in five days or less Provides self-study exercises that gradually build in complexity, helping the reader transition from novice to mastery of ANSYS References the ANSYS documentation throughout, focusing on developing overall competence with the software before tackling any specific application Prepares the reader to work with commands, input files and other advanced techniques

ADVANCES IN MECHANICAL ENGINEERING

SELECT PROCEEDINGS OF ICAME 2020

Springer Nature This book presents select peer-reviewed proceedings of the International Conference on Advances in Mechanical Engineering (ICAME 2020). The contents cover latest research in several areas such as advanced energy sources, automation, mechatronics and robotics, automobiles, biomedical engineering, CAD/CAM, CFD, advanced engineering materials, mechanical design, heat and mass transfer, manufacturing and production processes, tribology and wear, surface engineering, ergonomics and human factors, artificial intelligence, and supply chain management. The book brings together advancements happening in the different domains of mechanical engineering, and hence, this will be useful for students and researchers working in mechanical engineering.

LEARNING FEMAP

VIBRATION OF HYDRAULIC MACHINERY

Springer Science & Business Media Vibration of Hydraulic Machinery deals with the vibration problem which has significant influence on the safety and reliable operation of hydraulic machinery. It provides new achievements and the latest developments in these areas, even in the basic areas of this subject. The present book covers the fundamentals of mechanical vibration and rotordynamics as well as their main numerical models and analysis methods for the vibration prediction. The mechanical and hydraulic excitations to the vibration are analyzed, and the pressure fluctuations induced by the unsteady turbulent flow is predicted in order to obtain the unsteady loads. This book also discusses the loads, constraint conditions and the elastic and damping characters of the mechanical system, the structure dynamic analysis, the rotor dynamic analysis and the system instability of hydraulic machines, including the illustration of monitoring system for the instability and the vibration in hydraulic units. All the problems are necessary for vibration prediction of hydraulic machinery.

ADVANCED AEROSPACE MATERIALS

ALUMINUM-BASED AND COMPOSITE STRUCTURES

Walter de Gruyter GmbH & Co KG Advanced Aerospace Materials is intended for engineers and students of aerospace, materials, and mechanical engineering. It covers the transition from aluminum to composite materials for aerospace structures and will include essential and advanced analyses used in today's aerospace industries. Various aspects of design, failure and monitoring of structural components will be derived and presented accompanied by relevant formulas and analyses.

PROCEEDINGS OF THE 5TH INTERNATIONAL CONFERENCE ON INDUSTRIAL ENGINEERING (ICIE 2019)

VOLUME II

Springer Nature This book highlights recent findings in industrial, manufacturing and mechanical engineering, and provides an overview of the state of the art in these fields, mainly in Russia and Eastern Europe. A broad range of topics and issues in modern engineering are discussed, including the dynamics of machines and working processes, friction, wear and lubrication in machines, surface transport and technological machines, manufacturing engineering of industrial facilities, materials engineering, metallurgy, control systems and their industrial applications, industrial mechatronics, automation and robotics. The book gathers selected papers presented at the 5th International Conference on Industrial Engineering (ICIE), held in Sochi, Russia in March 2019. The authors are experts in various fields of engineering, and all papers have been carefully reviewed. Given its scope, the book will be of interest to a wide readership, including mechanical and production engineers, lecturers in engineering disciplines, and engineering graduates.

DIMENSION REDUCTION OF LARGE-SCALE SYSTEMS

PROCEEDINGS OF A WORKSHOP HELD IN OBERWOLFACH, GERMANY, OCTOBER 19-25, 2003

Springer Science & Business Media In the past decades, model reduction has become an ubiquitous tool in analysis and simulation of dynamical systems, control design, circuit simulation, structural dynamics, CFD, and many other disciplines dealing with complex physical models. The aim of this book is to survey some of the most successful model reduction methods in tutorial style articles and to present benchmark problems from several application areas for testing and comparing existing and new algorithms. As the discussed methods have often been developed in parallel in disconnected application areas, the intention of the mini-workshop in Oberwolfach and its proceedings is to make these ideas available to researchers and practitioners from all these different disciplines.

PROCEEDINGS OF THE FOURTH INTERNATIONAL CONFERENCE IN OCEAN ENGINEERING (ICOE2018)

VOLUME 2

Springer This book comprises selected proceedings of the Fourth International Conference in Ocean Engineering (ICOE2018), focusing on emerging opportunities and challenges in the field of ocean engineering and offshore structures. It includes state-of-the-art content from leading international experts, making it a valuable resource for researchers and practicing engineers alike.

ACOUSTICS AND VIBRATION OF MECHANICAL STRUCTURES—AVMS 2019

PROCEEDINGS OF THE 15TH AVMS, TIMISOARA, ROMANIA, MAY 30-31, 2019

Springer Nature This book contains selected and expanded contributions presented at the 15th Conference on Acoustics and Vibration of Mechanical Structures held in Timisoara, Romania, May 30-31, 2019. The conference focused on a broad range of topics related to acoustics and vibration, such as analytical approaches to nonlinear noise and vibration problems, environmental and occupational noise, structural vibration, biomechanics and bioacoustics, as well as experimental approaches to vibration problems in industrial processes. The different contributions also address the analytical, numerical and experimental techniques applicable to analyze linear and non-linear noise and vibration problems (including strong nonlinearity) and they are primarily intended to emphasize the actual trends and state-of-the-art developments in the above mentioned topics. The book is meant for academics, researchers and professionals, as well as PhD students concerned with various fields of acoustics and vibration of mechanical structures.

UNIFIED STRENGTH THEORY AND ITS APPLICATIONS

Springer Science & Business Media It has been ten years since I presented the paper entitled “A new model and theory on yield and failure of materials under the complex stress state” at the Sixth Conference on Mechanical Behaviour of Materials held at Kyoto, Japan in 1991. The proceedings edited by Jono and Inoue were published by Pergamon Press in 1991. At that conference Professor Murakami and I were invited to act as the chairperson and co-chairperson of a session, and I presented the paper at another session. Few days before the conference, I had given a seminar regarding the tw- shear strength theory and the unified strength theory at Nagoya Technological University. These were the first two presentations of the unified strength theory, although I had completed the research of the unified strength theory in 1990. The paper “Twin-shear strength theory and its generalization” was published in the English edition of Sciences in China, the top journal in China, in 1985. The th original generalized twin-shear strength theory was presented at the 16 International Theoretical and Applied Mechanics Congress held at Copenhagen in Denmark and MPA (MaterialPrüfungsAnstalt) at Stuttgart University, Germany in 1984. After this Congress I visited the MPA and School of Civil Engineering of Stuttgart University, and gave a seminar regarding the generalized twin-shear strength theory at MPA of Stuttgart University. Professor Otto Mohr (1835-1918) has had worked at the Stuttgart University. He was a very good professor, his lectures aroused great interest in his students.

PROCEEDINGS OF THE 13TH INTERNATIONAL SCIENTIFIC CONFERENCE

COMPUTER AIDED ENGINEERING

Springer These proceedings of the 13th International Conference on Computer Aided Engineering present selected papers from the event, which was held in Polanica Zdrój, Poland, from June 22 to 25, 2016. The contributions are organized according to thematic sections on the design and manufacture of machines and technical systems; durability prediction; repairs and retrofitting of power equipment; strength and thermodynamic analyses for power equipment; design and calculation of various types of load-carrying structures; numerical methods for dimensioning materials handling; and long-distance transport equipment. The conference and its proceedings offer a major interdisciplinary forum for researchers and engineers to present the most innovative studies and advances in this dynamic field.

MECHANICAL ENGINEERING

THE JOURNAL OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

UNSTEADY AERODYNAMICS, AEROACOUSTICS AND AEROELASTICITY OF TURBOMACHINES

Springer Science & Business Media This textbook is a collection of technical papers that were presented at the 10th International Symposium on Unsteady Aerodynamics, Aeroacoustics, and Aeroelasticity of Turbomachines held September 8-11, 2003 at Duke University in Durham, North Carolina. The papers represent the latest in state of the art research in the areas of aeroacoustics, aerothermodynamics, computational methods, experimental testing related to flow instabilities, flutter, forced response, multistage, and rotor-stator effects for turbomachinery.

VARIATIONAL ANALYSIS AND AEROSPACE ENGINEERING

Springer Science & Business Media The Variational Analysis and Aerospace Engineering conference held in Erice, Italy in September 2007 at International School of Mathematics, Guido Stampacchia provided a platform for aerospace engineers and mathematicians to discuss the problems requiring an extensive application of mathematics. This work contains papers presented at the workshop.

SOUND - PERCEPTION - PERFORMANCE

Springer Science & Business Media Musical Performance covers many aspects like Musical Acoustics, Music Psychology, or motor and prosodic actions. It deals with basic concepts of the origin or music and its evolution, ranges over neurocognitive foundations, and covers computational, technological, or simulation solutions. This volume gives an overview about current research in the foundation of musical performance studies on all these levels. Recent concepts of synchronized systems, evolutionary concepts, basic understanding of performance as Gestalt patterns, theories of chill as performance goals or historical aspects are covered. The neurocognitive basis of motor action in terms of music, musical syntax, as well as therapeutic aspects are discussed. State-of-the-art applications in performance realizations, like virtual room acoustics, virtual musicians, new concepts of real-time physical modeling using complex performance data as input or sensor and gesture studies with soft- and hardware solutions are presented. So although the field is still much larger, this volume presents current trends in terms of understanding, implementing, and perceiving performance.

A DICTIONARY OF MNEMONICS (PLE: MEMORY)

Psychology Press The Greeks invented them. All manner of people in the European Middle Ages used them, often with creative and brilliant effect. Victorian schoolmasters in England almost buried them and the pupils who had to cram facts parrot-fashion. Originally published in 1972, this title brought mnemonics back into focus with a new collection designed for current use. A mnemonic is anything that gets your memory working. When in the month does the third quarter-day fall? What order have the planets from the sun? Are you sure about the kings and queens of England? People nowadays have so much to remember that even those quite happy with $\sqrt{2} = 1.414$ may prefer to chant ‘I wish I know the root of two’ and remind themselves in that way. Although some entries are very much of their time, this title reminds us that mnemonics are still a useful tool in a world where technology means most people feel they have little need to remember.

CEAS/AIAA/ICASE/NASA LANGLEY INTERNATIONAL FORUM ON AEROELASTICITY AND STRUCTURAL DYNAMICS 1999

These proceedings represent a collection of the latest advances in aeroelasticity and structural dynamics from the world community. Research in the areas of unsteady aerodynamics and aeroelasticity, structural modeling and optimization, active control and adaptive structures, landing dynamics, certification and qualification, and validation testing are highlighted in the collection of papers. The wide range of results will lead to advances in the prediction and control of the structural response of aircraft and spacecraft.

VIBRATION

FUNDAMENTALS AND PRACTICE, SECOND EDITION

CRC Press Maintaining the outstanding features and practical approach that led the bestselling first edition to become a standard textbook in engineering classrooms worldwide, Clarence de Silva's *Vibration: Fundamentals and Practice, Second Edition* remains a solid instructional tool for modeling, analyzing, simulating, measuring, monitoring, testing, controlling, and designing for vibration in engineering systems. It condenses the author's distinguished and extensive experience into an easy-to-use, highly practical text that prepares students for real problems in a variety of engineering fields. What's New in the Second Edition? A new chapter on human response to vibration, with practical considerations Expanded and updated material on vibration monitoring and diagnosis Enhanced section on vibration control, updated with the latest techniques and methodologies New worked examples and end-of-chapter problems. Incorporates software tools, including LabVIEW™, SIMULINK®, MATLAB®, the LabVIEW Sound and Vibration Toolbox, and the MATLAB Control Systems Toolbox Enhanced worked examples and new solutions using MATLAB and SIMULINK The new chapter on human response to vibration examines representation of vibration detection and perception by humans as well as specifications and regulatory guidelines for human vibration environments. Remaining an indispensable text for advanced undergraduate and graduate students, *Vibration: Fundamentals and Practice, Second Edition* builds a unique and in-depth understanding of vibration on a sound framework of practical tools and applications.

THE FINITE ELEMENT METHOD: SOLID MECHANICS

Butterworth-Heinemann In the years since the fourth edition of this seminal work was published, active research has developed the Finite Element Method into the pre-eminent tool for the modelling of physical systems. Written by the pre-eminent professors in their fields, this new edition of the Finite Element Method maintains the comprehensive style of the earlier editions and authoritatively incorporates the latest developments of this dynamic field. Expanded to three volumes the book now covers the basis of the method and its application to advanced solid mechanics and also advanced fluid dynamics. Volume Two: Solid and Structural Mechanics is intended for readers studying structural mechanics at a higher level. Although it is an ideal companion volume to Volume One: The Basis, this advanced text also functions as a "stand-alone" volume, accessible to those who have been introduced to the Finite Element Method through a different route. Volume 1 of the Finite Element Method provides a complete introduction to the method and is essential reading for undergraduates, postgraduates and professional engineers. Volume 3 covers the whole range of fluid dynamics and is ideal reading for postgraduate students and professional engineers working in this discipline. Coverage of the concepts necessary to model behaviour, such as viscoelasticity, plasticity and creep, as well as shells and plates. Up-to-date coverage of new linked interpolation methods for shell and plate formations. New material on non-linear geometry, stability and buckling of structures and large deformations.

AN OVERVIEW OF LANDING GEAR DYNAMICS

On of the problems facing the aircraft community is landing gear dynamics, especially shimmy and brake-induced vibration. Shimmy and brake-induced vibrations can lead to accidents due to excessive wear and shortened life of gear parts and contribute to pilot and passenger discomfort. To increase understanding of these problems, a literature survey was performed. The major focus is on work from the last ten years. Some older publications are included to understand the longevity of the problem and the background from earlier researchers. The literature survey includes analyses, testing, modeling, and simulation of aircraft landing gear; and experimental validation and characterization of shimmy and brake-induced vibration of aircraft landing gear. The paper presents an overview of the problem, background information, and a history of landing gear dynamics problems and solutions. Based on the survey an assessment and recommendations of the most critically needed enhancements to the state of the art will be presented. The status of Langley work contributing to this activity will be given.

BEYOND TUBE-AND-WING

THE X-48 BLENDED WING-BODY AND NASA'S QUEST TO RESHAPE FUTURE TRANSPORT AIRCRAFT

NASA "This book details the remarkable efforts to develop a new aircraft configuration known as the Blended Wing-Body (BWB). Responding to a challenge from NASA, McDonnell Douglas Corporation initiated studies in the early 1990s to determine if this new configuration could bring about significant advantages over conventional sweptwing, streamlined tube, and swept-tail designs. Research precipitated the design and construction of two small-scale demonstrators: the X-48B. After McDonnell Douglas' merger with Boeing, the X-48B flew 92 test flights before modification into the X-48C, which in turn flew 30 flights under the auspices of NASA's Environmentally Responsible Aviation Program"--

NASTRAN USERS' COLLOQUIUM

PROCEEDINGS OF A COLLOQUIUM HELD IN ...

THE WORLD OF NANO-BIOMECHANICS

Elsevier *The World of Nano-Biomechanics, Second Edition*, focuses on the remarkable progress in the application of force spectroscopy to molecular and cellular biology that has occurred since the book's first edition in 2008. The initial excitement of seeing and touching a single molecule of protein/DNA is now culminating in the development of various ways to manipulate molecules and cells almost at our fingertips, enabling live cell operations. Topics include the development of molecular biosensors, mechanical diagnosis, cellular-level wound healing, and a look into the advances that have been made in our understanding of the significance of mechanical rigidity/flexibility of protein/DNA structure for the manifestation of biological activities. The book begins with a summary of the results of basic mechanics to help readers who are unfamiliar with engineering mechanics. Then, representative results obtained on biological macromolecules and structures, such as proteins, DNA, RNA, polysaccharides, lipid membranes, subcellular organelles, and live cells are discussed. New to this second edition are recent developments in three important applications, i.e., advanced AFM-data analysis, high-resolution mechanical biosensing, and the use of cell mechanics for medical diagnosis. Explains the basic physical concepts and mathematics of elementary mechanics needed to understand and perform experimental work on small-scale biological samples Presents recent developments of force-based biosensing Includes novel applications of nano-biomechanics to the medical field

COMPUTER METHODS IN MECHANICS

LECTURES OF THE CMM 2009

Springer Science & Business Media Prominent scientists present the latest achievements in computational methods and mechanics in this book. These lectures were held at the CMM 2009 conference.

COMPUTATIONAL FLIGHT TESTING

RESULTS OF THE CLOSING SYMPOSIUM OF THE GERMAN RESEARCH INITIATIVE COMFLITE, BRAUNSCHWEIG, GERMANY, JUNE 11TH-12TH, 2012

Springer Science & Business Media This book reports on the German research initiative ComFLiTe (Computational Flight Testing), the main goal of which was to enhance the capabilities of and tools for numerical simulation in flight physics to support future aircraft design and development. The initiative was coordinated by the German Aerospace Center (DLR) and promoted collaboration between the aircraft industry and academia. Activities focused on improving physical modeling for separated flows, developing advanced numerical algorithms for series computations and sensitivity predictions, as well as surrogate and reduced order modeling for aero data production and developing robust fluid-, structure- and flight mechanics coupling procedures. Further topics included more efficient handling

of aircraft control surfaces and improving simulation methods for maneuvers, such as gust encounter. The important results of this three-year initiative were presented during the ComFLiTe closing symposium, which took place at the DLR in Braunschweig, Germany, on 11-12 June 2012. Computational Flight Testing addresses both students and researchers in the areas of mathematics, numerical simulation and optimization methods, as well as professionals in aircraft design working at the forefront of their field.

PROCEEDINGS OF THE 19TH ASIA PACIFIC AUTOMOTIVE ENGINEERING CONFERENCE & SAE-CHINA CONGRESS 2017: SELECTED PAPERS

Springer This Proceedings volume gathers outstanding papers submitted to the 19th Asia Pacific Automotive Engineering Conference & 2017 SAE-China Congress, the majority of which are from China - the largest car-maker as well as most dynamic car market in the world. The book covers a wide range of automotive topics, presenting the latest technical advances and approaches to help technicians solve the practical problems that most affect their daily work.

COMPLEX SYSTEMS DESIGN & MANAGEMENT

PROCEEDINGS OF THE THIRD INTERNATIONAL CONFERENCE ON COMPLEX SYSTEMS DESIGN & MANAGEMENT CSD&M 2012

Springer Science & Business Media This book contains all refereed papers that were accepted to the third edition of the « Complex Systems Design & Management » (CSD&M 2012) international conference that took place in Paris (France) from December 12-14, 2012. (Website: <http://www.csdm2012.csdm.fr>) These proceedings cover the most recent trends in the emerging field of complex systems sciences & practices from an industrial and academic perspective, including the main industrial domains (transport, defense & security, electronics, energy & environment, e-services), scientific & technical topics (systems fundamentals, systems architecture & engineering, systems metrics & quality, systemic tools) and system types (transportation systems, embedded systems, software & information systems, systems of systems, artificial ecosystems). The CSD&M 2012 conference is organized under the guidance of the CESAMES non-profit organization (<http://www.cesames.net>).

ADDED MASSES OF SHIP STRUCTURES

Springer Science & Business Media Knowledge of added body masses that interact with fluid is necessary in various research and applied tasks of hydro- and aeromechanics: steady and unsteady motion of rigid bodies, total vibration of bodies in fluid, local vibration of the external plating of different structures. This reference book contains data on added masses of ships and various ship and marine engineering structures. Also theoretical and experimental methods for determining added masses of these objects are described. A major part of the material is presented in the format of final formulas and plots which are ready for practical use. The book summarises all key material that was published in both Russian and English-language literature. This volume is intended for technical specialists of shipbuilding and related industries. The author is one of the leading Russian experts in the area of ship hydrodynamics.