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KEY=E - SANTOS SANFORD

Recent Developments in Turbulence Management

Springer Science & Business Media **The European Drag Reduction Meeting has been held on 15th and 16th November 1990 in London. This was the fifth of the annual European meetings on drag reduction in engineering flows. The main objective of this meeting was to discuss up-to-date results of drag reduction research carried out in Europe. The organiser has adopted the philosophy of discussing the yesterday's results rather than the last year's results. No written material has therefore been requested for the meeting. It was only after the meeting the submission of papers was requested to the participants, from which 16 papers were selected for this proceedings volume. The meeting has attracted a record number of participants with a total of 52 researchers from seven European countries, U. K. , France, Germany, the Netherlands, Italy, Switzerland and U. S. S. R. as well as from Japan, Canada and Australia. The subjects covered in this proceedings volume include riblets, LEBUs (Large Eddy Break-Up device), surface roughness, compliant surfaces and polymer additives. Riblets seem to be one of the most extensively studied devices in the past years. Reflecting this situation in the European community, there are six papers on riblets covering their practical applications to aircraft and to a model ship, near-wall coherent structure of the boundary layer and effects of flow three-dimensionality. Possibility of heat-transfer enhancement with riblets and potential use in the laminar flow are also investigated. An analytical model is developed for the boundary-layer with a LEBU device.**

Scientific and Technical Information Output of the Langley Research Center for Calendar Year 1986

Structure of Turbulence and Drag Reduction

IUTAM Symposium Zurich, Switzerland July 25–28, 1989

Springer Science & Business Media **In 1976 a similar titled IUTAM Symposium (Structure of Turbulence and Drag Reduction) was held in Washington . However, the progress made during the last thirteen years as weil as the much promising current research desired a second one this year. In Washington drag reduction by additives and by direct manipulation of the walls (compliant walls and heated surfaces) were discussed. In the meantime it became evident that drag reduction also occurs when turbulence is influenced by geometrical means, e.g. by influencing the pressure distribution by the shape of the body (airfoils) or by the introduction of streamwise perturbances on a body (riblets). In the recent years turbulence research has seen increasing attention being focused on the investigation of coherent structures, mainly in Newtonian fluids. We all know that these structures are a significant feature of turbulent flows, playing an important role in the energy balance in such flows. However their place in turbulence theories as weil as the factors influencing their development are still poorly understood. Consequently, the investigation of phenomena in which the properties of coherent structures are alte red provides a promising means of improving our understanding of turbulent flows in general.**

High Angle of Attack Aerodynamics

Subsonic, Transonic, and Supersonic Flows

Springer Science & Business Media **The aerodynamics of aircraft at high angles of attack is a subject which is being pursued diligently, because the modern agile fighter aircraft and many of the current generation of missiles must perform well at very high incidence, near and beyond stall. However, a comprehensive presentation of the methods and results applicable to the studies of the complex aerodynamics at high angle of attack has not been covered in monographs or textbooks. This book is not the usual textbook in that it goes beyond just presenting the basic theoretical and experimental know-how, since it contains reference material to practical calculation methods and technical and experimental results which can be useful to the practicing aerospace engineers and scientists. It can certainly be used as a text and reference book for graduate courses on subjects related to high angles of attack aerodynamics and for topics related to three-dimensional separation in viscous flow courses. In addition, the book is addressed to the aerodynamicist interested in a comprehensive reference to methods of analysis and computations of high angle of attack flow phenomena and is written for the aerospace scientist and engineer who is familiar with the basic concepts of viscous and inviscid flows and with computational methods used in fluid dynamics.**

Fluid Dynamics for the Study of Transonic Flow

Oxford University Press **This new book leads readers step-by-step through the complexities encountered as moving objects approach and cross the sound barrier. The problems of transonic flight were apparent with the very first experimental flights of scale-model rockets when the disastrous impact of shock waves and flow separations caused the aircraft to spin wildly out of control. Today many of these problems have been overcome, and this book offers an introduction to the transonic theory that has made possible many of these advances. The emphasis is on the most important basic approaches to the solution of transonic problems. The book also includes explanations of common pitfalls that must be avoided. An effort has been made to derive the most important equations of inviscid and viscous transonic flow in sufficient detail so that even novices may feel confident in their problem-solving ability. The use of computer approaches is reviewed, with references to the extensive literature in this area, while the critical shortcomings of an exclusive reliance on computational methods are also described. The book will be valuable to anyone who needs to acquire an understanding of transonic flow, including practicing engineers as well as students of fluid mechanics.**

Computation of Supersonic Flow over Flying Configurations

Elsevier **Computation of Supersonic Flow over Flying Configurations is a high-level aerospace reference book that will be useful for undergraduate and graduate students of engineering, applied mathematics and physics. The author provides solutions for three-dimensional compressible Navier-Stokes layer subsonic and supersonic flows. Computational work and experimental results show the real-world application of computational results Easy computation and visualization of inviscid and viscous aerodynamic characteristics of flying configurations Includes a fully optimized and integrated design for a proposed supersonic transport aircraft**

ICAS Proceedings, 1986

15th Congress of the International Council of the Aeronautical Sciences, 7-12 September 1986, London, UK

Progress in Computational Flow-Structure Interaction

Results of the Project UNSI, supported by the European Union 1998 – 2000

Springer Science & Business Media **Aircraft design processes require extensive work in the area of both aerodynamics and structure, fonning an environment for aeroelasticity investigations. Present and future designs of European aircraft are characterized by an ever increasing aircraft size and perfonnance. Strong weight saving requirements are met by introduction of new materials, leading to more flexible structure of the aircraft. Consequently, aeroelastic phenomena such as vortex-induced aeroelastic oscillations and moving shock waves can be predominant and may have a significant effect on the aircraft perfonnance. Hence, the ability to estimate reliable margins for aeroelastic instabilities (flutter) or dynamic loads (buffeting) is a major concern to the aircraft designer. As modern aircrafts have wing bending modes with frequencies that are low enough to influence the flight control system, demands on unsteady aerodynamics and structural analysis to predict flight control effectiveness and riding comfort for passengers are extremely high. Therefore,**

the aircraft industries need an improved capacity of robust, accurate and reliable prediction methods in the coupled aeroelastic, flight mechanics and loads disciplines. In particular, it is necessary to develop/improve and calibrate the numerical tools in order to predict with high level of accuracy and capability complex and non-classical aeroelastic phenomena, including aerodynamic non-linearities, such as shock waves and separation, as well as structural non-linearities, e. g. control surface free-play. Nowadays, robust methods for structural analysis and linearised unsteady aerodynamics are coupled and used by the aircraft industry to computationally clear a new design from flutter.

Turbulent Shear-Layer/Shock-Wave Interactions

IUTAM Symposium, Palaiseau, France September 9–12, 1985

Springer Science & Business Media **It was on a proposal of the late Professor Maurice Roy, member of the French Academy of Sciences, that in 1982, the General Assembly of the International Union of Theoretical and Applied Mechanics decided to sponsor a symposium on Turbulent Shear-Layer/Shock-Wave Interactions. This sympo sium might be arranged in Paris -or in its immediate vicinity-during the year 1985. Upon request of Professor Robert Legendre, member of the French Academy of Sciences, the organization of the symposium might be provided by the Office National d'Etudes et de Recherches Aerospatiales (ONERA). The request was very favorably received by Monsieur l'Ingenieur General Andre Auriol, then General Director of ONERA. The subject of interactions between shock-waves and turbulent dissipative layers is of considerable importance for many practical devices and has a wide range of engineering applications. Such phenomena occur almost inevitably in any transonic or supersonic flow and the subject has given rise to an important research effort since the advent of high speed fluid mechanics, more than forty years ago. However, with the coming of age of modern computers and the development of new sophisticated measurement techniques, considerable progress has been made in the field over the past fifteen years. The aim of the symposium was to provide an updated status of the research effort devoted to shear layer/shock-wave interactions and to present the most significant results obtained recently.**

Technical Publications Announcements with Indexes

USDA Forest Service Research Paper INT.

Innovative Configurations and Advanced Concepts for Future Civil Aircraft

June 6-10, 2005

Applied Mechanics Reviews

Yearbook of International Organizations

Edition for 1983/84- published in 3 vols.: vol. 1, Organization descriptions and index; vol. 2, International organization participation; vol. 3, Global action networks.

5th International Conference on Geofoam Blocks in Construction Applications

Proceedings of EPS 2018

Springer **These proceedings of the EPS 2018: 5th International Conference on Geofoam Blocks in Construction Applications, held in Kyrenia, Northern Cyprus on May 9 to 11, 2018, present a collection of contributions on the state-of-the-art of research and applications relating to geofoam. Geofoam researchers, consultants, molders, contractors and practitioners from all around the globe discuss the recent developments and future trends of expanded polystyrene (EPS)-block geofoam technology and its construction applications. EPS'18 contributes to the development of geofoam applications, following on from successful conferences in Oslo (1985), Tokyo (1996), Salt Lake City (2001) and Oslo (2011). The book discusses topics including, but not limited to, current use of geofoam, design specifications, applications, new concepts, material properties, modeling and specific topics in geofoam blocks in construction applications.**

Boundary Integral Methods

Theory and Applications

Springer Science & Business Media **This volume contains edited papers from IABEM-90, the 1990 Symposium of the Interna tional Association for Boundary Element Methods (IABEM). As stated in the By-Laws of the Association, the purposes of IABEM are: 1. to promote the international exchange of technical information related to the devel opment and application of boundary-integral equation (BIE) formulations and their numerical implementation to problems in engineering and science, commonly referred to as the boundary element method (BEM); 2. to promote research and development activities for the advancement of boundary integral equation methods and boundary element solution algorithms; 3. to foster closer personal relationships within the BEM community of researchers. The objectives of the Symposium, in line with those of the Association, was to provide a forum where the two "souls" of the Association, i. e. , (i) mathematical foundations and numerical aspects, and (ii) engineering applications could be integrated. We believe that the first aspect has been neglected in too many of the BEM Symposia held in the past, which, with a few exceptions (notably, the IUTAM Symposia on the subject) have emphasized the practical aspects of the method. As a consequence, we have tried to give a stronger emphasis to the more theoretical issues: this is attested for instance, by the fact that the two general lectures were given by Prof. Gaetano Fichera, of the University of Rome "La Sapienza," and Prof.**

Physics Briefs

Physikalische Berichte

Nuclear Science Abstracts

NSA is a comprehensive collection of international nuclear science and technology literature for the period 1948 through 1976, pre-dating the prestigious INIS database, which began in 1970. NSA existed as a printed product (Volumes 1-33) initially, created by DOE's predecessor, the U.S. Atomic Energy Commission (AEC). NSA includes citations to scientific and technical reports from the AEC, the U.S. Energy Research and Development Administration and its contractors, plus other agencies and international organizations, universities, and industrial and research organizations. References to books, conference proceedings, papers, patents, dissertations, engineering drawings, and journal articles from worldwide sources are also included. Abstracts and full text are provided if available.

Gathering Medicines

Nation and Knowledge in China’s Mountain South

University of Chicago Press **In the early 2000s, the central government of China encouraged all of the nation’s registered minorities to “salvage, sort, synthesize, and elevate” folk medical knowledges in an effort to create local health care systems comparable to the nationally supported institutions of traditional Chinese medicine. Gathering Medicines bears witness to this remarkable moment of knowledge development while sympathetically introducing the myriad therapeutic traditions of southern China. Over a period of six years, Judith Farquhar and Lili Lai worked with seven minority nationality groups in China’s southern mountains, observing how medicines were gathered and local healing systems codified. Gathering Medicines shares their intimate view of how people understand ethnicity, locality, the body, and nature. This ethnography of knowledge diversities in multiethnic China is a testament to the rural wisdom of mountain healers, one that theorizes, from the ground up, the dynamic encounters between formal statist knowledge and the popular authority of the wild.**

Modeling Complex Turbulent Flows

Springer Science & Business Media **Turbulence modeling both addresses a fundamental problem in physics, 'the last great unsolved problem of classical physics,' and has far-reaching importance in the solution of difficult practical problems from aeronautical engineering to dynamic meteorology. However, the growth of supercom puter facilities has recently caused an apparent shift in the focus of tur bulence research from modeling to direct numerical simulation (DNS) and large eddy simulation (LES). This shift in emphasis comes at a time when claims are being made in the world around us that scientific analysis itself will shortly be transformed or replaced by a more powerful 'paradigm' based on massive computations and sophisticated visualization. Although this viewpoint has not lacked ar ticulate and influential advocates, these claims can at best only be judged premature. After all, as one computational researcher lamented, 'the com puter only does what I tell it to do, and not what I want it to do. ' In turbulence research, the initial speculation that computational meth ods would replace not only model-based computations but even experimen tal measurements, have not come close to fulfillment. It is becoming clear that computational methods and model development are equal partners in turbulence research: DNS and LES remain valuable tools for suggesting and validating models, while turbulence models continue to be the preferred tool for practical computations. We believed that a symposium which would reaffirm the practical and scientific importance of turbulence modeling was both necessary and timely.**

EUROSHOCK - Drag Reduction by Passive Shock Control

Results of the Project EUROSHOCK, AER2-CT92-0049 Supported by the European Union, 1993 – 1995

Springer Science & Business Media **This volume contains the description of an EC-sponsered program to study all relevant aspects of shock/ boundary-layer interaction control, the latter designed to improve aircraft performance at design (cruise) and off-design conditions. The work being presented includes a discussion of basic control experiments and the corresponding physical modeling, to account for shock control and a discussion of the airfoil experiments conducted for code validation and control assessment, in conjunction with the basic experiments and computations. The contents is comprised of a section giving a broad overview of the research carried out here and more detailed individual contributions by the participants in the research. Der Band enthält den Abschlußbericht eines von EU geförderten Projekts EUROSHOCK, das alle relevanten Aspekte der Kontrolle von Stoßfronten und Grenzschichten (wichtig z.B. für die Verbesserung der Flugeigenschaften von Fluzeugen) untersuchte. Neben einer ausführlichen Diskussion der grundlegenden Kontrollexperimente und der zugrundeliegenden Modellierung werden auch die Versuche an Tragflächen beschrieben, die zur Validierung von Modellrechnungen durchgeführt werden. Darüber hinaus enthält der Band auch die detaillierten Ergebnisse der Teilnehmer an dem Forschungsprogramm.**

Macquarie Dictionary

An authoritative reference resource on Australian English, the 4th edition of 'The Macquarie Dictionary' contains many examples of usage and etymology, as well as including entries on the people and places of Australia and the rest of the world.

Index of Conference Proceedings

Annual cumulation

Documentation de la FAO.

Indice corriente

Naplan*-style Test Pack Year 5

Monthly Catalog of United States Government Publications

Aeronautical Engineering

A Continuing Bibliography with Indexes

Disaster Preparedness

Report to the Congress

New Results in Numerical and Experimental Fluid Mechanics V

Contributions to the 14th STAB/DGLR Symposium Bremen, Germany 2004

Springer Science & Business Media **This volume collects contributions to the 14th Symposium of the STAB (German Aerospace Aerodynamics Association). The association involves German scientists and engineers from universities, research establishments and industry who are doing research and project work in numerical and experimental fluid mechanics and aerodynamics, mainly for aerospace but for other applications, too. The volume gives a broad overview of ongoing work in Germany in this field.**

Biomimetics

Bioinspired Hierarchical-Structured Surfaces for Green Science and Technology

Springer **This revised, updated and expanded new edition presents an overview of biomimetics and biologically inspired structured surfaces. It deals with various examples of biomimetics which include surfaces with roughness-induced superomniphobicity, self-cleaning, antifouling, and controlled adhesion. The focus in the book is on the Lotus Effect, Salvinia Effect, Rose Petal Effect, Oleophobic/philic Surfaces, Shark Skin Effect, and Gecko Adhesion. This new edition also contains new chapters on the butterfly wing effect, bio- and inorganic fouling and structure and Properties of Nacre and structural coloration.**

Air Traffic Management and Systems II

Selected Papers of the 4th ENRI International Workshop, 2015

Springer **This book is a compilation of selected papers from the 4th ENRI International Workshop on ATM/CNS (EIWAC2015). The work focuses on novel techniques for aviation infrastructure in air traffic management (ATM) and communications, navigation, surveillance, and informatics (CNSI) domains. The contents make valuable contributions to academic researchers, engineers in the industry, and regulators of aviation authorities. As well, readers will encounter new ideas for realizing a more efficient and safer aviation system.**

Drag Reduction by Shock and Boundary Layer Control

Results of the Project EUROSHOCK II. Supported by the European Union 1996–1999

Springer Science & Business Media **The survival of the Aeronautical Industries of Europe in the highly competitive World Aviation Market is strongly dependent on such factors as time-to-market of a new or derivative aircraft and on its manufacturing costs but also on the achievement of a competitive technological advantage by which an increased market share can be gained. Recognizing this, cooperative research is continuously encouraged and co-financed by the European Union in order to strengthen the scientific and technological base of the Aeronautical Industries thus providing - among others - the technological edge needed for survival. Corresponding targets of research within Area 3, Technologies for Transport Means, and here in particular Area 3A, Aeronautics Technologies, of the Industrial and Materials Technologies Program (Brite -EuRam III, 1994 -1998) have been identified to be aircraft efficiency, cost effectiveness and environmental impact. Concerning aircraft efficiency - relevant to the present research - a reduction in aircraft drag of 10%, a reduction in aircraft fuel consumption of 30%, and a reduction in airframe, engine and system weight of 20% are envisaged. Meeting these objectives has, of course, also a strong positive impact on the environment.**

Advanced Aircraft Design

Conceptual Design, Analysis and Optimization of Subsonic Civil Airplanes

John Wiley & Sons **Although the overall appearance of modern airliners has not changed a lot since the introduction of jetliners in the 1950s, their safety, efficiency and environmental friendliness have improved considerably. Main contributors to this have been gas turbine engine technology, advanced materials, computational aerodynamics, advanced structural analysis and on-board systems. Since aircraft design became a highly multidisciplinary activity, the development of multidisciplinary optimization (MDO) has become a popular new discipline. Despite this, the application of MDO during the conceptual design phase is not yet widespread. Advanced Aircraft Design: Conceptual Design, Analysis and Optimization of Subsonic Civil Airplanes presents a quasi-analytical optimization approach based on a concise set of sizing equations. Objectives are aerodynamic efficiency, mission fuel, empty weight and maximum takeoff weight. Independent design variables studied include design cruise altitude, wing area and span and thrust or power loading. Principal features of integrated concepts such as the blended wing and body and highly non-planar wings are also covered. The quasi-analytical approach enables designers to compare the results of high-fidelity MDO optimization with lower-fidelity methods which need far less computational effort. Another advantage to this approach is that it can provide answers to “what if” questions rapidly and with little computational cost. Key features: Presents a new fundamental vision on conceptual airplane design optimization Provides an overview of advanced technologies for propulsion and reducing aerodynamic drag Offers insight into the derivation of design sensitivity information Emphasizes design based on first principles Considers pros and cons of innovative configurations Reconsiders optimum cruise performance at transonic Mach numbers Advanced Aircraft Design: Conceptual Design, Analysis and Optimization of Subsonic Civil Airplanes advances understanding of the initial optimization of civil airplanes and is a must-have reference for aerospace engineering students, applied researchers, aircraft design engineers and analysts.**

First International Symposium on Strain Gauge Balances

World Meetings Outside U.S.A. and Canada

Islam in Indonesia

Contrasting Images and Interpretations

Amsterdam University Press **While Muslims in Indonesia have begun to turn towards a strict adherence to Islam, the reality of the socio-religious environment is much more complicated than a simple shift towards fundamentalism. In this volume, contributors explore the multifaceted role of Islam in Indonesia from a variety of different perspectives, drawing on carefully compiled case studies. Topics covered include religious education, the increasing number of Muslim feminists in Indonesia, the role of Indonesia in the greater Muslim world, social activism and the middle class, and the interaction between Muslim radio and religious identity.**

High Performance Computing in Science and Engineering ' 04

Transactions of the High Performance Computing Center, Stuttgart (HLRS) 2004

Springer Science & Business Media **This book presents the state-of-the-art in modelling and simulation on supercomputers. Leading German research groups present their results achieved on high-end systems of the High Performance Computing Center Stuttgart (HLRS) for the year 2004. The reports cover all fields of computational science and engineering ranging from computational fluid dynamics via computational physics and chemistry to computer science. Special emphasis is given to industrially relevant applications. Presenting results for both vector-systems and micro-processor based systems the book allows to compare performance levels and usability of a variety of supercomputer architectures. In the light of the success of the Japanese Earth-Simulator this book may serve as a guide book for a US response. The book covers the main methods in high performance computing. Its outstanding results in achieving highest performance for production codes are of particular interest for both the scientist and the engineer. The book comes with a wealth of coloured illustrations and tables of results.**

Machine Learning and Knowledge Discovery in Databases

European Conference, ECML PKDD 2015, Porto, Portugal, September 7-11, 2015, Proceedings, Part III

Springer **The three volume set LNAI 9284, 9285, and 9286 constitutes the refereed proceedings of the European Conference on Machine Learning and Knowledge Discovery in Databases, ECML PKDD 2015, held in Porto, Portugal, in September 2015. The 131 papers presented in these proceedings were carefully reviewed and selected from a total of 483 submissions. These include 89 research papers, 11 industrial papers, 14 nectar papers, 17 demo papers. They were organized in topical sections named: classification, regression and supervised learning; clustering and unsupervised learning; data preprocessing; data streams and online learning; deep learning; distance and metric learning; large scale learning and big data; matrix and tensor analysis; pattern and sequence mining; preference learning and label ranking; probabilistic, statistical, and graphical approaches; rich data; and social and graphs. Part III is structured in industrial track, nectar track, and demo track.**

Tea War

A History of Capitalism in China and India

Yale University Press **A history of capitalism in nineteenth- and twentieth-century China and India exploring the competition between their tea industriesTea remains the world’s most popular commercial drink today, and at the turn of the twentieth century, it represented the largest export industry of both China and colonial India. In analyzing the global competition between Chinese and Indian tea, Andrew B. Liu challenges past economic histories premised on the technical “divergence” between the West and the Rest, arguing instead that seemingly traditional technologies and practices were central to modern capital accumulation across Asia. He shows how competitive pressures compelled Chinese merchants to adopt abstract, industrial conceptions of time, while colonial planters in India pushed for labor indenture laws to support factory-style tea plantations. Further, characterizations of China and India as premodern backwaters, he explains, were themselves the historical result of new notions of political economy adopted by Chinese and Indian nationalists, who discovered that these abstract ideas corresponded to concrete social changes in their local surroundings. Together, these stories point toward a more flexible and globally oriented conceptualization of the history of capitalism in China and India.**

Groupware: Design, Implementation, and Use

15th International Workshop, Peso da Régua, Douro, Portugal, September 13-17, 2009, Proceedings

Springer Science & Business Media **This book constitutes the refereed post-conference proceedings of the 15th International Workshop on Groupware: Design, Implementation, and Use, held in Peso da Régua, Douro, Portugal, during September 13-17, 2009. The 30 papers presented were carefully reviewed and selected from numerous submission. The topics covered are mobile collaboration, social aspects of collaboration, technology for CSCW, groupware evaluation, CSCW design, geo collaboration, collaborative learning, and modeling CSCW.**