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## **Civil Engineering Hydraulics Abstracts** 1985

*Multiphase Flow Handbook* Clayton T. Crowe 2005-09-19 Because of the importance of multiphase flows in a wide variety of industries, including power, petroleum, and numerous processing industries, an understanding of the behavior and underlying theoretical concepts of these systems is critical. Contributed by a team of prominent experts led by a specialist with more than thirty years of experience, the Multiphase Flow Handbook provides such an understanding, and much more. It covers all aspects of multiphase flows, from fundamentals to numerical methods and instrumentation. The book begins with an introduction to the fundamentals of particle/fluid/bubble interactions followed by gas/liquid flows and methods for calculating system parameters. It includes up-to-date information on practical industrial applications such as boiling and condensation, fluidized beds, aerosols, separation systems, pollution control, granular and porous media flow, pneumatic and slurry transport, and sprays. Coverage then turns to the most recent information on particle/droplet-fluid interactions, with a chapter devoted to microgravity and microscale flows and another on basic multiphase interactions. Rounding out the presentation, the authors discuss numerical methods, state-of-the-art instrumentation, and advanced experimental techniques. Supplying up-to-date, authoritative information on all aspects of multiphase flows along with numerous problems and examples, the Multiphase Flow Handbook is the most complete reference available for understanding the flow of multiphase mixtures.

*Mathematical Reviews* 1994

**Fusion Nucléaire** 1997

**Physics Briefs** 1988

*Mecánica de fluidos* Bergada Grañó, Josep María 2012-11-25 El presente libro es fruto de la experiencia adquirida durante toda una carrera universitaria. Esta obra está diseñada para presentar los principios básicos de la Mecánica de Fluidos de una manera clara y muy sencilla, muchos de los problemas que se exponen fueron, en su momento, problemas de examen de la asignatura. Asimismo, pretende ser un libro de repaso para quienes, habiendo estudiado Ingeniería y trabajando en la industria, precisan fijar determinados conceptos sobre la materia. Finalmente, se desea que esta obra sirva de apoyo a todas las escuelas de los países de habla hispana que imparten las diversas Ingenierías. Espero y deseo que este libro sea un instrumento útil de introducción de la temática presentada. Josep M Bergadà, es Ingeniero Industrial (especialidad: Mecánica) desde 1990 y Doctor Ingeniero Industrial desde 1996. Ejerce como profesor en el Departamento de Mecánica de

Fluidos de la Escola Tècnica Superior d'enginyeries Industrial y Aeronàutica de Terrassa (ETSEIAT-UPC) desde hace mas de 22 años, y es Profesor Titular de Universidad desde el 2009. Durante este período, ha impartido clases de las asignaturas de Mecánica de Fluidos, Maquinas Hidráulicas, Gasdinámica y Oleohidráulica, en la actualidad imparte la asignatura de Mecánica de Fluidos. Su labor investigadora se ha orientado a la Oleohidráulica, campo en el que realizo su tesis doctoral. Ha formado parte de un grupo de investigación del Instituto de Investigación Textil, donde trabajó en diversos proyectos internacionales y ha estado trabajando durante más de 10 años (2000-2010) con el departamento de Mechanical Engineering de la Universidad de Cardiff (Reino Unido) en la optimización de maquinas volumétricas. A partir del año 2011, parte de su labor investigadora la desarrolla en la Technische Universität Berlin, (Alemania), centrándose en la actualidad en el desarrollo de modelos matemáticos aplicables en el campo de la Mecánica de Fluidos. Es autor de diversos libros, publicados tanto por Ediciones UPC como por editoriales externas a la UPC, y de más de ochenta artículos publicados en revistas y congresos nacionales e internacionales.

**Activities of Institute for Computer Applications in Science and Engineering (ICASE)** 2001

*Fundamentals of Fluid Mechanics* Jack B. Evett 1987

**Applied Mechanics Reviews** 1973

*Journal of Heat Transfer* 1976

**Because Without Cause** Marc Lange 2017 Not all scientific explanations work by describing causal connections between events or the world's overall causal structure. Some mathematical proofs explain why the theorems being proved hold. In this book, Marc Lange proposes philosophical accounts of many kinds of non-causal explanations in science and mathematics. These topics have been unjustly neglected in the philosophy of science and mathematics. One important kind of non-causal scientific explanation is termed explanation by constraint. These explanations work by providing information about what makes certain facts especially inevitable - more necessary than the ordinary laws of nature connecting causes to their effects. Facts explained in this way transcend the hurly-burly of cause and effect. Many physicists have regarded the laws of kinematics, the great conservation laws, the coordinate transformations, and the parallelogram of forces as having explanations by constraint. This book presents an original account of explanations by constraint, concentrating on a variety of examples from classical physics and special relativity. This book also offers original accounts of several other varieties of non-causal scientific explanation. Dimensional explanations

work by showing how some law of nature arises merely from the dimensional relations among the quantities involved. Really statistical explanations include explanations that appeal to regression toward the mean and other canonical manifestations of chance. Lange provides an original account of what makes certain mathematical proofs but not others explain what they prove. Mathematical explanation connects to a host of other important mathematical ideas, including coincidences in mathematics, the significance of giving multiple proofs of the same result, and natural properties in mathematics. Introducing many examples drawn from actual science and mathematics, with extended discussions of examples from Lagrange, Desargues, Thomson, Sylvester, Maxwell, Rayleigh, Einstein, and Feynman, Because Without Cause's proposals and examples should set the agenda for future work on non-causal explanation.

**Stability Criteria for Fluid Flows** Adelina Georgescu 2010 This is a comprehensive and self-contained introduction to the mathematical problems of thermal convection. The book delineates the main ideas leading to the authors' variant of the energy method. These can be also applied to other variants of the energy method. The importance of the book lies in its focussing on the best concrete results known in the domain of fluid flows stability and in the systematic treatment of mathematical instruments used in order to reach them. Sample Chapter(s). Introduction (121 KB). Chapter 1: Mathematical models governing fluid flows stability (640 KB). Contents: Mathematical Models Governing Fluid Flows Stability; Incompressible Navier-Stokes Fluid; Elements of Calculus of Variations; Variants of the Energy Method for Non-Stationary Equations; Applications to Linear B(r)nard Convections; Variational Methods Applied to Linear Stability; Applications of the Direct Method to Linear Stability. Readership: Researchers in applied mathematics and condensed matter physics (thermodynamics).

**Natural Gas Hydrate Management in Deepwater Gas Well** Zhiyuan Wang 2020-06-19 This book chiefly describes the theories and technologies for natural gas hydrate management in deepwater gas wells. It systematically explores the mechanisms of hydrate formation, migration, deposition and blockage in multiphase flow in gas-dominated systems; constructs a multiphase flow model of multi-component systems for wells that takes into account hydrate phase transition; reveals the influence of hydrate phase transition on multiphase flows, and puts forward a creative hydrate blockage management method based on hydrate blockage free window (HBFW), which enormously improves the hydrate prevention effect in deepwater wells. The book combines essential theories and industrial technology practice to facilitate a deeper understanding of approaches to and technologies for hydrate management in deepwater wells, and provides guidance on operation design. Accordingly, it represents a valuable reference guide for both researchers and graduate students working in oil and gas engineering, offshore oil and gas engineering, oil and gas storage and transportation engineering, as well as technical staff in the fields of deepwater oil and gas drilling, development, and flow assurance.

**International Aerospace Abstracts** 1995

**Thermal-Fluid Sciences** Stephen Turns 2006-01-30 Thermal-Fluid Sciences is a truly integrated textbook for engineering courses covering thermodynamics, heat transfer and fluid mechanics. This integration is based on: 1. The fundamental conservation principles of mass, energy, and momentum; 2. A hierarchical grouping of related topics; 3. The early introduction and revisiting of practical device examples and applications. As with all great textbooks the focus is on accuracy and accessibility. To enhance the learning experience Thermal-Fluid Sciences features full color illustrations. The robust pedagogy includes: chapter learning

objectives, overviews, historical vignettes, numerous examples which follow a consistent problem-solving format enhanced by innovative self tests and color coding to highlight significant equations and advanced topics. Each chapter concludes with a brief summary and a unique checklist of key concepts and definitions. Integrated tutorials show the student how to use modern software including the NIST Database (included on the in-text CD) to obtain thermodynamic and transport properties.

**Eigenvalues of Inhomogeneous Structures** Isaac Elishakoff 2004-10-28 The engineering community generally accepts that there exists only a small set of closed-form solutions for simple cases of bars, beams, columns, and plates. Despite the advances in powerful computing and advanced numerical techniques, closed-form solutions remain important for engineering; these include uses for preliminary design, for evaluation

**Nuclear Science Abstracts** 1963-03

**The Chemical Engineer** 1997

**Scientific Activities** Mekhon Vaitzman le-mada' 1990

**Transactions of the American Society of Mechanical Engineers** American Society of Mechanical Engineers 1963 Vols. 2, 4-11, 62-68 include the Society's Membership list; v. 55-80 include the Journal of applied mechanics (also issued separately) as contributions from the Society's Applied Mechanics Division.

**Chaos, Solitons and Fractals** 1999

**Fluid Mechanics** Franz Durst 2008-09-01 Fluid mechanics embraces engineering, science, and medicine. This book's logical organization begins with an introductory chapter summarizing the history of fluid mechanics and then moves on to the essential mathematics and physics needed to understand and work in fluid mechanics. Analytical treatments are based on the Navier-Stokes equations. The book also fully addresses the numerical and experimental methods applied to flows. This text is specifically written to meet the needs of students in engineering and science. Overall, readers get a sound introduction to fluid mechanics.

**Peterson's Guide to Graduate Programs in Engineering and Applied Sciences** 1983

**Research Report** Tekhniyon, Makhon tekhnologi le-Yisra'el 1969

**Fluid Mechanics Solutions Manual** David Pnueli 1993-10-01 This solution manual accompanies the authors' text Fluid Mechanics (ISBN 0-521-41704X) published by Cambridge University Press in 1992.

**Two-Phase Flow** Cl Kleinstreuer 2017-11-01 This graduate text provides a unified treatment of the fundamental principles of two-phase flow and shows how to apply the principles to a variety of homogeneous mixture as well as separated liquid-liquid, gas-solid, liquid-solid, and gas-liquid flow problems, which may be steady or transient, laminar or turbulent. Each chapter contains several sample problems, which illustrate the outlined theory and provide approaches to find simplified analytic descriptions of complex two-phase flow phenomena. This well-balanced introductory text will be suitable for advanced seniors and graduate students in mechanical, chemical, biomedical, nuclear, environmental and aerospace engineering, as well as in applied mathematics and the physical sciences. It will be a valuable reference for practicing engineers and scientists. A solutions manual is available to qualified instructors.

**Journal of Applied Mechanics** 1964

**New Technical Books** New York Public Library 1993

**Biofluid Dynamics** Clement Kleinstreuer 2016-04-19 Requiring only an introductory background in continuum mechanics, including thermodynamics, fluid mechanics, and solid mechanics, Biofluid Dynamics: Principles and Selected Applications contains

review, methodology, and application chapters to build a solid understanding of medical implants and devices. For additional assistance, it includes a glossary of biological terms, many figures illustrating theoretical concepts, numerous solved sample problems, and mathematical appendices. The text is geared toward seniors and first-year graduate students in engineering and physics as well as professionals in medicine and medical implant/device industries. It can be used as a primary selection for a comprehensive course or for a two-course sequence. The book has two main parts: theory, comprising the first two chapters; and applications, constituting the remainder of the book. Specifically, the author reviews the fundamentals of physical and related biological transport phenomena, such as mass, momentum, and heat transfer in biomedical systems, and highlights complementary topics such as two-phase flow, biomechanics, and fluid-structure interaction. Two appendices summarize needed elements of engineering mathematics and CFD software applications, and these are also found in the fifth chapter. The application part, in form of project analyses, focuses on the cardiovascular system with common arterial diseases, organ systems, targeted drug delivery, and stent-graft implants. Armed with Biofluid Dynamics, students will be ready to solve basic biofluids-related problems, gain new physical insight, and analyze biofluid dynamics aspects of biomedical systems.

Control of Stochastic Hybrid Systems based on Probabilistic Reachable Set Computation Leonhard Asselborn 2018-09-17 This thesis proposes an algorithmic controller synthesis based on the computation of probabilistic reachable sets for stochastic hybrid systems. Hybrid systems consist in general of a composition of discrete and continuous valued dynamics, and are able to capture a wide range of physical phenomena. The stochasticity is considered in form of normally distributed initial continuous states and normally distributed disturbances, resulting in stochastic hybrid systems.

The reachable sets describe all states, which are reachable by a system for a given initialization of the system state, inputs, disturbances, and time horizon. For stochastic hybrid systems, these sets are probabilistic, since the system state and disturbance are random variables. This thesis introduces probabilistic reachable sets with a predefined confidence, which are used in an optimization based procedure for the determination of stabilizing control inputs. Besides the stabilizing property, the controlled dynamics also observes input constraints, as well as, so-called chance constraints for the continuous state.

The main contribution of this thesis is the formulation of an algorithmic control

procedure for each considered type of stochastic hybrid systems, where different discrete dynamics are considered. First, a control procedure for a deterministic system with bounded disturbances is introduced, and thereafter a probabilistic distribution of the system state and the disturbance is assumed. The formulation of probabilistic reachable sets with a predefined confidence is subsequently used in a control procedure for a stochastic hybrid system, in which the switch of the continuous dynamics is externally induced. Finally, the control procedure based on reachable set computation is extended to a type of stochastic hybrid systems with autonomously switching of the continuous dynamics.

**The Cumulative Book Index** 1994 A world list of books in the English language.

*Chemical Engineering Progress* 2001

Theoretical Chemical Engineering Abstracts 1986

**Fluid Mechanics** David Pnueli 1997-01-13 This text is intended for the study of fluid mechanics at an intermediate level. The presentation starts with basic concepts, in order to form a sound conceptual structure that can support engineering applications and encourage further learning. The presentation is exact, incorporating both the mathematics involved and the physics needed to understand the various phenomena in fluid mechanics. Where a didactical choice must be made between the two, the physics prevails. Throughout the book the authors have tried to reach a balance between exact presentation, intuitive grasp of new ideas, and creative applications of concepts. This approach is reflected in the examples presented in the text and in the exercises given at the end of each chapter. Subjects treated are hydrostatics, viscous flow, similitude and order of magnitude, creeping flow, potential flow, boundary layer flow, turbulent flow, compressible flow, and non-Newtonian flows. This book is ideal for advanced undergraduate students in mechanical, chemical, aerospace, and civil engineering. Solutions manual available.

*Israel Journal of Technology* 1981 Includes proceedings of various meetings and conferences.

**A Characterization of Unsteady Gas Discharge from a Vessel** Sheridan Clark Johnston 1974

Proceedings: Second Canadian Congress of Applied Mechanics University of Waterloo 1969

**By Accident** Trevor A. Kletz 2000 Kletz's techniques for safety in the process industries are explained in his biography.

The British National Bibliography Arthur James Wells 2000

*Previews of Heat and Mass Transfer* 1997