

Boundary Layer Ysis Schetz Solution Manual

This text is a companion volume to *Transmission Electron Microscopy: A Textbook for Materials Science* by Williams and Carter. The aim is to extend the discussion of certain topics that are either rapidly changing at this time or that would benefit from more detailed discussion than space allowed in the primary text. World-renowned researchers have contributed chapters in their area of expertise, and the editors have carefully prepared these chapters to provide a uniform tone and treatment for this exciting material. The book features an unparalleled collection of color figures showcasing the quality and variety of chemical data that can be obtained from today's instruments, as well as key pitfalls to avoid. As with the previous TEM text, each chapter contains two sets of questions, one for self assessment and a second more suitable for homework assignments. Throughout the book, the style follows that of Williams & Carter even when the subject matter becomes challenging—the aim is always to make the topic understandable by first-year graduate students and others who are working in the field of Materials Science. Topics covered include sources, in-situ experiments, electron diffraction, Digital Micrograph, waves and holography, focal-series reconstruction and direct methods, STEM and tomography, energy-filtered TEM (EFTEM) imaging, and spectrum imaging. The range and depth of material makes this companion volume essential reading for the budding microscopist and a key reference for practicing researchers using these and related techniques.

Firmly established as the leading international reference in this field, *Non-Invasive Methods and the Skin* broke new ground with its comprehensive coverage of methods used in both clinical and experimental dermatology. Completely revised and updated, containing more than twice as much information, the Second Edition continues the tradition. The authors' thorough research and clear organization make this book a baseline reference for those using noninvasive biophysical methods to study the skin. Arranged by physical modality and structured to provide educational and practical information, the second edition, like its predecessor, will prove to be of value to young researchers and senior scientists alike. The coverage of major evaluation and measurement methods share a consistent format, including scope, sources of error, application, and validity. This edition incorporates 69 revised chapters with more than 90 new chapters covering topics such as computer technique, imaging techniques, skin friction, barrier functions, and more. New chapters provide coverage of: computers, computer techniques, and image analysis imaging techniques, including clinical photography legal situations and guidelines behind instrumental use skin friction barrier functions important new techniques such as in vitro confocal microscopy, OCT, and Raman spectroscopy veterinary/animal research use of methods The truly interdisciplinary, international panel of contributors includes experts from the specialties of dermatology, bioengineering, pathology, manufacturing engineering, medical physics, pharmacology, microbiology, neurology, surgery, obstetrics and gynecology, cardiovascular research, and pharmacy from academic institutions and hospitals in countries such as Denmark, Germany, the United Kingdom, the United States, Japan, Israel, Taiwan, and Singapore. The revision is extensive and covers a broad spectrum of methods while providing the same caliber of authoritative information that made the previous edition so popular.

Application oriented, practical, and instructive, this Second Edition will meet the needs of the researchers today, and in years to come.

Good, No Highlights, No Markup, all pages are intact, Slight Shelfwear, may have the corners slightly dented, may have slight color changes/slightly damaged spine.

Fluid Machinery

A Biosynthetic Approach

Atomization and Sprays

Proceedings of SAROD 2018

Index of Research Results

Pandex Current Index to Scientific and Technical Literature

The second edition of this long-time bestseller provides a framework for designing and understanding sprays for a wide array of engineering applications. The text contains correlations and design tools that can be easily understood and used in relating the design of atomizers to the resulting spray behavior. Written to be accessible to readers with a modest technical background, the emphasis is on application rather than in-depth theory. Numerous examples are provided to serve as starting points for using the information in the book. Overall, this is a thoroughly updated edition that still retains the practical focus and readability of the original work by Arthur Lefebvre.

The Routledge Handbook of Research Methods for Social-Ecological Systems provides a synthetic guide to the range of methods that can be employed in social-ecological systems (SES) research. The book is primarily targeted at graduate students, lecturers and researchers working on SES, and has been written in a style that is accessible to readers entering the field from a variety of different disciplinary backgrounds. Each chapter discusses the types of SES questions to which the particular methods are suited and the potential resources and skills required for their implementation, and provides practical examples of the application of the methods. In addition, the book contains a conceptual and practical introduction to SES research, a discussion of key gaps and frontiers in SES research methods, and a glossary of key terms in SES research. Contributions from 97 different authors, situated at SES research hubs in 16 countries around the world, including South Africa, Sweden, Germany and Australia, bring a wealth of expertise and experience to this book. The first book to provide a guide and introduction specifically focused on methods for studying SES, this book will be of great interest to students and scholars of sustainability science, environmental management, global environmental change studies and environmental governance. The book will also be of interest to upper-level undergraduates and professionals working at the science-policy interface in the environmental arena.

This volume presents the proceedings of the Fifth International Conference on the Development of Biomedical Engineering in Vietnam which was held from June 16-18, 2014 in Ho Chi Minh City. The volume reflects the progress of Biomedical Engineering and discusses problems and solutions. I aims identifying new challenges, and shaping future directions for research in biomedical engineering fields including medical instrumentation, bioinformatics, biomechanics, medical imaging, drug delivery therapy, regenerative medicine and entrepreneurship in medical devices.

The Routledge Handbook of Research Methods for Social-Ecological Systems

Instability and Transition

Fundamentals of Tree Ring Research

Performance, Analysis, and Design

Encyclopedic Handbook of Integrated Optics

Past, Present and Future

This book formulates a relativistic theory of biology, challenging the common gene-centred view of organisms. Edited by prominent researchers and with contributions from experts in their individual areas, Intelligent Energy Field Manufacturing: Interdisciplinary Process Innovations explores a new philosophy of engineering. An in-depth introduction to Intelligent Energy Field Manufacturing (EFM), this book explores a fresh engineering methodology that not only integrates but goes beyond methodologies such as Design for Six Sigma, Lean Manufacturing, Concurrent Engineering, TRIZ, green and sustainable manufacturing, and more. This book gives a systematic introduction to classic non-mechanical manufacturing processes as well as offering big pictures of some technical frontiers in modern engineering. The book suggests that any manufacturing process is actually a process of injecting human intelligence into the interaction between material and the various energy fields in order to transfer the material into desired configurations. It discusses technological innovation, dynamic M-PIE flows, the generalities of energy fields, logic functional materials and intelligence, the open scheme of intelligent EFM implementation, and the principles of intelligent EFM. The book takes a highly interdisciplinary approach that includes research frontiers such as micro/nano fabrication, high strain rate processes, laser shock forming, materials science and engineering, bioengineering, etc., in addition to a detailed treatment of the so called "non-traditional" manufacturing processes, which covers waterjet machining, laser material processing, ultrasonic material processing, EDM/ECM, etc. Filled with illustrative pictures, figures, and tables that make technical materials more absorbable, the book cuts across multiple engineering disciplines. The majority of books in this area report the facts of proven knowledge, while the behind-the-scenes thinking is usually neglected. This book examines the big picture of manufacturing in depth before diving into the details of an individual process, demonstrating how innovations are achieved. It lowers barriers to technical innovation, meets new engineering challenges, and systematically introduces manufacturing processes.

This book provides the first comprehensive introduction to the field of compressible turbulent flows, for students, engineers and scientists. The text collects the most recent results of research on the behavior of turbulent shear layers at supersonic speed and recounts the current understanding of these flows. No other book provides an integrated treatment of turbulent flows with compressibility - essential to the design and operation of high-speed vehicles.

Design and Development of Aerospace Vehicles and Propulsion Systems

Applied Mechanics Reviews

5th International Conference on Biomedical Engineering in Vietnam

Theory and Management of Strabismus

Interdisciplinary Process Innovations

Materials of the workshop held May 15-June 9, 1989 in Hampton, Virginia Volume 1

Tree-ring dating (dendrochronology) is a method of scientific dating based on the analysis of tree-ring growth patterns. As author James Speer notes, trees are remarkable bioindicators. Although there are other scientific means of dating climatic and environmental events, dendrochronology provides the most reliable of all paleorecords. Dendrochronology can be applied to very old trees to provide long-term records of past temperature, rainfall, fire, insect outbreaks, landslides, hurricanes, and ice storms--to name only a few events. This comprehensive text addresses all of the subjects that a reader who is new to the field will need to know and will be a welcome reference for practitioners at all levels. It includes a history of the discipline, biological and ecological

background, principles of the field, basic scientific information on the structure and growth of trees, the complete range of dendrochronology methods, and a full description of each of the relevant subdisciplines. Individual chapters address the composition of wood, methods of field and laboratory study, dendroarchaeology, dendroclimatology, dendroecology, dendrogeomorphology, and dendrochemistry. The book also provides thorough introductions to common computer programs and methods of statistical analysis. In the final chapter, the author describes "frontiers in dendrochronology," with an eye toward future directions in the field. He concludes with several useful appendixes, including a listing of tree and shrub species that have been used successfully by dendrochronologists. Throughout, photographs and illustrations visually represent the state of knowledge in the field.

Optimization in Solving Elliptic Problems focuses on one of the most interesting and challenging problems of computational mathematics - the optimization of numerical algorithms for solving elliptic problems. It presents detailed discussions of how asymptotically optimal algorithms may be applied to elliptic problems to obtain numerical solutions meeting certain specified requirements. Beginning with an outline of the fundamental principles of numerical methods, this book describes how to construct special modifications of classical finite element methods such that for the arising grid systems, asymptotically optimal iterative methods can be applied. Optimization in Solving Elliptic Problems describes the construction of computational algorithms resulting in the required accuracy of a solution and having a pre-determined computational complexity. Construction of asymptotically optimal algorithms is demonstrated for multi-dimensional elliptic boundary value problems under general conditions. In addition, algorithms are developed for eigenvalue problems and Navier-Stokes problems. The development of these algorithms is based on detailed discussions of topics that include accuracy estimates of projective and difference methods, topologically equivalent grids and triangulations, general theorems on convergence of iterative methods, mixed finite element methods for Stokes-type problems, methods of solving fourth-order problems, and methods for solving classical elasticity problems. Furthermore, the text provides methods for managing basic iterative methods such as domain decomposition and multigrid methods. These methods, clearly developed and explained in the text, may be used to develop algorithms for solving applied elliptic problems. The mathematics necessary to understand the development of such algorithms is provided in the introductory material within the text, and common specifications of algorithms that have been developed for typical problems in mathematical physics are identified. These features of the book make it more widely accessible to those interested in numerical methods and their optimization, including students and researchers in mathematical physics, functional analysis, theory of differential equations, approximation theory of functions, and geometry.

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.

Index

Movement, Affect, Sensation

Biological Relativity

Strengthening Forensic Science in the United States

In Situ, In Vitro and In Silico Models

Selected Results of the COST Action IC1406 cHiPSet

This collection of essays discusses fascinating aspects of the concept that microbes are at the root of all ecosystems. The content is divided into seven parts, the first of those emphasizes that microbes not only were the starting point, but sustain the rest of the

biosphere and shows how life evolves through a perpetual struggle for habitats and niches. Part II explains the ways in which microbial life persists in some of the most extreme environments, while Part III presents our understanding of the core aspects of microbial metabolism. Part IV examines the duality of the microbial world, acknowledging that life exists as a balance between certain processes that we perceive as being environmentally supportive and others that seem environmentally destructive. In turn, Part V discusses basic aspects of microbial symbioses, including interactions with other microorganisms, plants and animals. The concept of microbial symbiosis as a driving force in evolution is covered in Part VI. In closing, Part VII explores the adventure of microbiological research, including some reminiscences from and perspectives on the lives and careers of microbe hunters. Given its mixture of science and philosophy, the book will appeal to scientists and advanced students of microbiology, evolution and ecology alike.

Discover how biomarkers can boost the success rate of drug development efforts As pharmaceutical companies struggle to improve the success rate and cost-effectiveness of the drug development process, biomarkers have emerged as a valuable tool. This book synthesizes and reviews the latest efforts to identify, develop, and integrate biomarkers as a key strategy in translational medicine and the drug development process. Filled with case studies, the book demonstrates how biomarkers can improve drug development timelines, lower costs, facilitate better compound selection, reduce late-stage attrition, and open the door to personalized medicine. Biomarkers in Drug Development is divided into eight parts: Part One offers an overview of biomarkers and their role in drug development. Part Two highlights important technologies to help researchers identify new biomarkers. Part Three examines the characterization and validation process for both drugs and diagnostics, and provides practical advice on appropriate statistical methods to ensure that biomarkers fulfill their intended purpose. Parts Four through Six examine the application of biomarkers in discovery, preclinical safety assessment, clinical trials, and translational medicine. Part Seven focuses on lessons learned and the practical aspects of implementing biomarkers in drug development programs. Part Eight explores future trends and issues, including data integration, personalized medicine, and ethical concerns. Each of the thirty-eight chapters was contributed by one or more leading experts, including scientists from biotechnology and pharmaceutical firms, academia, and the U.S. Food and Drug Administration. Their contributions offer pharmaceutical and clinical researchers the most up-to-date understanding of the strategies used for and applications of biomarkers in drug development.

Enhance your hardware/software reliability Enhancement of system reliability has been a major concern of computer users and designers | and this major revision of the 1982 classic meets users' continuing need for practical information on this pressing topic. Included are case studies of reliable systems from manufacturers such as Tandem, Stratus, IBM, and Digital, as well as coverage of special systems such as the Galileo Orbiter fault protection system and AT&T telephone switching processors.

Comparative and Evolutionary Genomics of Angiosperm Trees

Scientific and Technical Aerospace Reports

Dance to the Tune of Life

A Path Forward

Drivers, Mechanisms and Impacts

A Handbook of Practice, Application, and Strategy

This open access book was prepared as a Final Publication of the COST Action IC1406 “High-Performance Modelling and Simulation for Big Data Applications (cHiPSet)” project. Long considered important pillars of the scientific method, Modelling and Simulation have evolved from traditional discrete numerical methods to complex data-intensive continuous analytical optimisations. Resolution, scale, and accuracy have become essential to predict and analyse natural and complex systems in science and engineering. When their level of abstraction raises to have a better discernment of the domain at hand, their representation gets increasingly demanding for computational and data resources. On the other hand, High Performance Computing typically entails the effective use of parallel and distributed processing units coupled with efficient storage, communication and visualisation systems to underpin complex data-intensive applications in distinct scientific and technical domains. It is then arguably required to have a seamless interaction of High Performance Computing with Modelling and Simulation in order to store, compute, analyse, and visualise large data sets in science and engineering. Funded by the European Commission, cHiPSet has provided a dynamic trans-European forum for their members and distinguished guests to openly discuss novel perspectives and topics of interests for these two communities. This cHiPSet compendium presents a set of selected case studies related to healthcare, biological data, computational advertising, multimedia, finance, bioinformatics, and telecommunications.

This Open Access book, building on research initiated by scholars from the Leiden-Delft-Erasmus Centre for Global Heritage and Development (CHGD) and ICOMOS Netherlands, presents multidisciplinary research that connects water to heritage. Through twenty-one chapters it explores landscapes, cities, engineering structures and buildings from around the world. It describes how people have actively shaped the course, form and function of water for human settlement and the development of civilizations, establishing socio-economic structures, policies and cultures; a rich world of narratives, laws and practices; and an extensive network of infrastructure, buildings and urban form. The book is organized in five thematic sections that link practices of the past to the design of the present and visions of the future: part I discusses drinking water management; part II addresses water use in agriculture; part III explores water management for land reclamation and defense; part IV examines river and coastal planning; and part V focuses on port cities and waterfront regeneration. Today, the many complex systems of the past are necessarily the basis for new systems that both preserve the past and manage water today: policy makers and designers can work together to recognize and build on the traditional knowledge and skills that old structure embody. This book argues that there is a need for a common agenda and an

integrated policy that addresses the preservation, transformation and adaptive reuse of historic water-related structures. Throughout, it imagines how such efforts will help us develop sustainable futures for cities, landscapes and bodies of water.

Marking the change in focus of tree genomics from single species to comparative approaches, this book covers biological, genomic, and evolutionary aspects of angiosperm trees that provide information and perspectives to support researchers broadening the focus of their research. The diversity of angiosperm trees in morphology, anatomy, physiology and biochemistry has been described and cataloged by various scientific disciplines, but the molecular, genetic, and evolutionary mechanisms underlying this diversity have only recently been explored. Excitingly, advances in genomic and sequencing technologies are ushering a new era of research broadly termed comparative genomics, which simultaneously exploits and describes the evolutionary origins and genetic regulation of traits of interest. Within tree genomics, this research is already underway, as the number of complete genome sequences available for angiosperm trees is increasing at an impressive pace and the number of species for which RNAseq data are available is rapidly expanding. Because they are extensively covered by other literature and are rapidly changing, technical and computational approaches—such as the latest sequencing technologies—are not a main focus of this book. Instead, this comprehensive volume provides a valuable, broader view of tree genomics whose relevance will outlive the particulars of current-day technical approaches. The first section of the book discusses background on the evolution and diversification of angiosperm trees, as well as offers description of the salient features and diversity of the unique physiology and wood anatomy of angiosperm trees. The second section explores the two most advanced model angiosperm tree species (poplars and eucalypts) as well as species that are soon to emerge as new models. The third section describes the structural features and evolutionary histories of angiosperm tree genomes, followed by a fourth section focusing on the genomics of traits of biological, ecological, and economic interest. In summary, this book is a timely and well-referenced foundational resource for the forest tree community looking to embrace comparative approaches for the study of angiosperm trees.

Variational Analysis and Aerospace Engineering

Intelligent Energy Field Manufacturing

Drug Absorption Studies

Microbes: The Foundation Stone of the Biosphere

Diffraction, Imaging, and Spectrometry

Injection and Mixing in Turbulent Flow

Ocean Mixing: Drivers, Mechanisms and Impacts presents a broad panorama of one of the most rapidly-developing areas of marine science. It highlights the state-of-the-art concerning knowledge of the causes of ocean mixing, and a perspective on the implications for ocean circulation, climate, biogeochemistry and the marine ecosystem. This edited volume places a particular emphasis on elucidating the key future questions

relating to ocean mixing, and emerging ideas and activities to address them, including innovative technology developments and advances in methodology. Ocean Mixing is a key reference for those entering the field, and for those seeking a comprehensive overview of how the key current issues are being addressed and what the priorities for future research are. Each chapter is written by established leaders in ocean mixing research; the volume is thus suitable for those seeking specific detailed information on sub-topics, as well as those seeking a broad synopsis of current understanding. It provides useful ammunition for those pursuing funding for specific future research campaigns, by being an authoritative source concerning key scientific goals in the short, medium and long term. Additionally, the chapters contain bespoke and informative graphics that can be used in teaching and science communication to convey the complex concepts and phenomena in easily accessible ways.

- Presents a coherent overview of the state-of-the-art research concerning ocean mixing
- Provides an in-depth discussion of how ocean mixing impacts all scales of the planetary system
- Includes elucidation of the grand challenges in ocean mixing, and how they might be addressed

This guide covers classes of natural products in medicine, whether derived from plants, micro-organisms or animals. Structured according to biosynthetic pathway, it is written from a chemistry-based approach.

This book presents selected papers presented in the Symposium on Applied Aerodynamics and Design of Aerospace Vehicles (SAROD 2018), which was jointly organized by Aeronautical Development Agency (the nodal agency for the design and development of combat aircraft in India), Gas-Turbine Research Establishment (responsible for design and development of gas turbine engines for military applications), and CSIR-National Aerospace Laboratories (involved in major aerospace programs in the country such as SARAS program, LCA, Space Launch Vehicles, Missiles and UAVs). It brings together experiences of aerodynamicists in India as well as abroad in Aerospace Vehicle Design, Gas Turbine Engines, Missiles and related areas. It is a useful volume for researchers, professionals and students interested in diversified areas of aerospace engineering.

Expanding the Lexicon

High-Performance Modelling and Simulation for Big Data Applications

Parables for the Virtual

Reliable Computer Systems

Handbook of Non-Invasive Methods and the Skin, Second Edition

Adaptive Strategies for Water Heritage

This is a well thought-out, highly practical text covering contemporary ‘in vitro’ techniques for drug absorption studies. Starting at the molecular level of investigation, it continues with cell monolayer models (both primary and cell lines) and culminates with in situ techniques as a final testing format. In addition, chapters on high-throughput assays, in vitro-in vivo correlation, bioinformatics and regulatory issues are covered, giving a comprehensive overview of available models and techniques. Moreover, an appendix consisting of a number of practical protocols is available online, updated as needed, and should prove very helpful to apply the techniques directly to the benchside.

Fluid Machinery: Performance, Analysis, and Design provides a comprehensive introduction to the fluid mechanics of turbomachinery. By

focusing on the preliminary design and selection of equipment to meet a set of performance specifications-including size, noise, and cost limitations-the author promotes a basic but thorough understanding of the subject. His pragmatic approach exposes students to a realistic array of conflicting requirements and real-world industrial applications, while providing a solid background for more advanced study. Coverage of both gas and hydraulic turbines and emphasis on industrial issues and equipment makes this book ideal for mechanical engineering students. Fluid Machinery uses extensive illustration, examples, and exercises to prepare students to confront industrial applications with confidence. Scores of talented and dedicated people serve the forensic science community, performing vitally important work. However, they are often constrained by lack of adequate resources, sound policies, and national support. It is clear that change and advancements, both systematic and scientific, are needed in a number of forensic science disciplines to ensure the reliability of work, establish enforceable standards, and promote best practices with consistent application. Strengthening Forensic Science in the United States: A Path Forward provides a detailed plan for addressing these needs and suggests the creation of a new government entity, the National Institute of Forensic Science, to establish and enforce standards within the forensic science community. The benefits of improving and regulating the forensic science disciplines are clear: assisting law enforcement officials, enhancing homeland security, and reducing the risk of wrongful conviction and exoneration. Strengthening Forensic Science in the United States gives a full account of what is needed to advance the forensic science disciplines, including upgrading of systems and organizational structures, better training, widespread adoption of uniform and enforceable best practices, and mandatory certification and accreditation programs. While this book provides an essential call-to-action for congress and policy makers, it also serves as a vital tool for law enforcement agencies, criminal prosecutors and attorneys, and forensic science educators.

Government Reports Announcements & Index

Design and Evaluation

Library Journal

Biomarkers in Drug Development

Turbulent Shear Layers in Supersonic Flow

Ocean Mixing

As optical technologies move closer to the core of modern computer architecture, there arise many challenges in building optical capabilities from the network to the motherboard. Rapid advances in integrated optics technologies are making this a reality. However, no comprehensive, up-to-date reference is available to the technologies and principles underlying the field. The Encyclopedic Handbook of Integrated Optics fills this void, collecting the work of 53 leading experts into a compilation of the most important concepts, phenomena, technologies, and terms covering all related fields. This unique book consists of two types of entries: the first is a detailed, full-length description; the other, a concise overview of the topic. Additionally, the coverage can be divided into four broad areas: A survey of the basics of integrated optics, exploring theory, practical concerns, and the fundamentals behind optical devices Focused discussion on devices and components such as arrayed waveguide grating, various types of lasers, optical

amplifiers, and optoelectronic devices In-depth examination of subsystems including MEMS, optical pickup, and planar lightwave circuits Finally, systems considerations such as multiplexing, demultiplexing, 3R circuits, transmission, and reception Offering a broad and complete treatment of the field, the Encyclopedic Handbook of Integrated Optics is the complete guide to the fundamentals, principles, and applications of integrated optics technology.

The creation of new lexical units and patterns has been studied in different research frameworks, focusing on either system-internal or system-external aspects, from which no comprehensive view has emerged. The volume aims to fill this gap by studying dynamic processes in the lexicon – understood in a wide sense as not being necessarily limited to the word level – by bringing together approaches directed to morphological productivity as well as approaches analyzing general types of lexical innovation and the role of discourse-related factors. The papers deal with ongoing changes as well as with historical processes of change in different languages and reflect on patterns and specific subtypes of lexical innovation as well as on their external conditions and the speakers’ motivations for innovating. Moreover, the diffusion and conventionalization of innovations will be addressed. In this way, the volume contributes to understanding the complex interplay of structural, cognitive and functional factors in the lexicon as a highly dynamic domain.

Although the body has been the focus of much contemporary cultural theory, the models that are typically applied neglect the most salient characteristics of embodied existence—movement, affect, and sensation—in favor of concepts derived from linguistic theory. In *Parables for the Virtual* Brian Massumi views the body and media such as television, film, and the Internet, as cultural formations that operate on multiple registers of sensation beyond the reach of the reading techniques founded on the standard rhetorical and semiotic models. Renewing and assessing William James’s radical empiricism and Henri Bergson’s philosophy of perception through the filter of the post-war French philosophy of Deleuze, Guattari, and Foucault, Massumi links a cultural logic of variation to questions of movement, affect, and sensation. If such concepts are as fundamental as signs and significations, he argues, then a new set of theoretical issues appear, and with them potential new paths for the wedding of scientific and cultural theory. Replacing the traditional opposition of literal and figural with new distinctions between stasis and motion and between actual and virtual, *Parables for the Virtual* tackles related theoretical issues by applying them to cultural mediums as diverse as architecture, body art, the digital art of Stelarc, and Ronald Reagan’s acting career. The result is an intriguing combination of cultural theory, science, and philosophy that asserts itself in a crystalline and multi-faceted argument. *Parables for the Virtual* will interest students and scholars of continental and Anglo-American philosophy, cultural studies, cognitive science, electronic art, digital culture, and chaos theory, as well as those concerned with the “science wars” and the relation between the humanities and the sciences in general.

Medicinal Natural Products

U.S. Government Research & Development Reports

A HEAT TRANSFER TEXTBOOK

Modification

Linguistic Innovation, Morphological Productivity, and Ludicity

Transmission Electron Microscopy

These two volumes contain the proceedings of the workshop on the Institute for Computer Instability and Transition, sponsored by Applications in Science and Engineering (ICASE) and the Langley Research Center (LaRC), during May 15 to June 9, 1989. The workshop coincided with the initiation of a new, focused research program on instability and transition at LaRC. The objectives of the workshop were to (i) expose the academic community to current technologically important issues of instability and transition in shear flows over the entire speed range, (ii) acquaint the academic community with the unique combination of theoretical, computational and experimental capabilities at LaRC and foster interaction with these facilities, (iii) review current state-of-the-art and propose future directions for instability and transition research, (iv) accelerate progress in elucidating basic understanding of transition phenomena and in transferring this knowledge into improved design methodologies through improved transition modeling, and (v) establish mechanisms for continued interaction. The objectives (i) to (iii) were of course immediately met. It is still premature to assess whether objectives (iv) and (v) are achieved. The workshop program consisted of tutorials, research presentations, panel discussions, experimental and computational demonstrations, and collaborative projects.

Boundary Layer Analysis

Laminar Flow in an Annulus with Porous Walls

Binocular Vision and Ocular Motility

Optimization in Solving Elliptic Problems