Sci Document Boeing

Advances during 1966 in astronomy, exobiology, ionospheric sciences, radio and solar physics, and planetary atmospheres and planetology. Examines the impact of science and technology systems on economic and social development.

Historians, along with participants in current aerospace research programs, will gain valuable perspective on the interaction of politics and technology.

The Encyclopedia of Military Science provides a comprehensive, ready-reference on the organization, traditions, training, purpose, and functions of today’s military. Entries in this four-volume work include coverage of the duties, responsibilities, and authority of military personnel and an understanding of strategies and tactics of the modern military and how they interface with political, social, legal, economic, and technological factors. A large component is devoted to issues of leadership, group dynamics, motivation, problem-solving, and decision making in the military context. Finally, this work also covers recent American military history since the end of the Cold War with a special emphasis on peacekeeping and peacemaking operations, the First Persian Gulf War, the events surrounding 9/11, and the wars in Afghanistan and Iraq and how the military has been changing in relation to these events. Click here to read an article on The Daily Beast by Encyclopedia editor G. Kurt Piehler, "Why Don't We Build Statues For Our War Heroes Anymore?"

The airplane ranks as one of history's most ingenious and phenomenal inventions. It has surely been one of the most world changing. How ideas about aerodynamics first came together and how the science and technology evolved to forge the airplane into the revolutionary machine that it became is the epic story told in this six-volume series, The Wind and Beyond: A Documentary Journey through the History of Aerodynamics in America. Following up on Volume I's account of the invention of the airplane and the creation of the original aeronautical research establishment in the United States, Volume II explores the airplane design revolution of the 1920s and 1930s and the quest for improved airfoils. Subsequent volumes cover the aerodynamics of airships, flying boats, rotary-wing aircraft, breaking the sound barrier, and more.

This series was organized to provide a forum for review papers in the area of corrosion. The aim of these reviews is to bring certain areas of corrosion science and technology into a sharp focus. The volumes of this series are published approximately on a yearly basis and each contains three to five reviews. The articles in each volume are sekcted in such a way as to be of interest both to the corrosion scientists and the corrosion technologists. There is, in fact, a particular aim in juxtaposing these interests because of the importance of mutual interaction and interdisciplinarity so important in corrosion studies. It is hoped that the corrosion scientists in this way may stay abreast of the activities in corrosion technology and vice versa. In this series the term "corrosion" is used in its very broadest sense. It includes, therefore, not only the degradation of metals in aqueous en vironment but also what is commonly referred to as "high-temperature oxidation." Further, the plan is to be even more general than these topics; the series will include all solids and all environments. Today, engineering solids include not only metals but glasses, ionic solids, polymeric solids, and composites of these. Environments of interest must be extended to liquid metals, a wide variety of gases, nonaqueous electrolytes, and other non aqueous liquids.

Adsorption of Information Technology to Software Reliability.

Speed in acquiring the knowledge and skills to perform tasks is crucial. Yet, it still ordinarily takes many years to achieve high proficiency in countless jobs and professions, in government, business, industry, and throughout the private sector. There would be great advantages if regimens of training could be established that could accelerate the achievement of high levels of proficiency. This book discusses the construct of ‘accelerated learning.’ It includes a review of the research literature on learning acquisition and retention, focus on establishing what works, and why. This includes several demonstrations of accelerated learning, with specific ideas, plans and roadmaps for doing so. The impetus for the book was a tasking from the Defense Science and Technology Advisory Group, which is the top level Science and Technology policy-making panel in the Department of Defense. However, the book uses both military and non-military exemplar case studies. It is likely that methods for acceleration will leverage technologies and capabilities including virtual training, cross-training, training across strategic and tactical levels, and training for resilience and adaptivity. This volume provides a wealth of information and guidance for those interested in the concept or phenomenon of "accelerating learning"— in education, training, psychology, academia in general, government, military, or industry.

Although a considerable amount of information concerning the applications for arc plasmas in the materials sciences is available, it is contained in literally thousands of separate manuals, technical notes, textbooks, and government and industrial reports. Each source generally deals with only one specific application or, at best, a narrow range of utilization. This book was developed to provide a comprehensive and up-to-date compilation of information in the technology of arc plasma utilization. The book is divided into two general categories: flame spraying and materials evaluation. In the flame spraying section a comprehensive review of the plasma spraying process is presented. The design and operation of plasma spraying equipment are described. Included are a description of the nature of a plasma, and the design and operation of plasma generators, powder feed systems and accessory control equip ment. The general process procedures, and associated process variables are de scribed. Particular emphasis is given to the particle heating process and the mechanisms for adherence and cohesion of coatings. Competitive flame spraying equipment is also detailed (combustion process, detonation and electric arc) and compared with the plasma spray process. A discussion and compilation of flame sprayed ceramic and metal materials, their properties and applications are also included.

Includes Part 1, Number 2: Books and Pamphlets, Including Serials and Contributions to Periodicals July - December)

Boeing's 737 is indisputably the most popular and arguably the safest commercial airliner in the world. But the plane had a lethal flaw, and only after several disastrous crashes and years of painstaking investigation was the mystery of its rudder failure solved. This book tells the story of how engineers and scientists finally uncovered the defect that had been engineered into the plane. One of its novel features is that it portrays the complex interaction of different experts and opposing interests in investigating and solving the mystery of this single crash.

From the invention of eyeglasses to the Internet, this three-volume set examines the pivotal effects that inventions have had on society, providing a fascinating history of technology and innovations in the United States from the earliest colonization by Europeans to the present. • Encourages readers to consider the tremendous potential impact of advances in science and technology and the ramifications of important inventions on the global market, human society, and even the planet as a whole • Supports eras addressed in the National Standards for American history as well as curricular units on inventions, discoveries, and technological advances • Includes primary documents, a chronology, and section openers that help readers contextualize the content

Systems engineering (SE) is experiencing a significant expansion that encompasses increasingly complex systems. However, a common body of knowledge on how to apply complex systems engineering (CSE) has yet to be developed. A combination of people and other autonomous agents, crossing organization boundaries and continually changing, these hybrid systems are less predictable while being more self-organizing and adaptive than traditional systems. The growing pains of this evolution and the ever-widening reach of SE technology

require an effective foundation for integrating traditional and complex engineering methods, addressing machine and human interaction, as well as scaling up and down, from nano scale to the macro system-of-systems level. Model-oriented Systems Engineering Science: A Unifying Framework for Traditional and Complex Systems addresses solutions to that expansion and integration problem. This text takes advantage of better-understood systems science (SS) to support the transition, identifying and using commonalities between complex systems and other sciences, such as biology, sociology, cognitive science, organizational theory, and computational science. The author defines Model-oriented Systems Engineering Science (MOSES), an organized system that selects appropriate information from these disciplines and unifies it into a coherent framework. The result is a seamless approach to the class of systems across the extended scope of the new SE—a foundation upon which to develop an enhanced and unified SE. Modeling orientation (MO) provides a common perspective on the entire SES/SE enterprise, including all supporting sciences, engineering for the full range of traditional, complex, and hybrid systems, and their management. This book extends existing modeling approaches into an MO that views all science artifacts and engineering artifacts as models of systems. It organizes them into a virtual structured repository called the "SE model space"—effectively a container for the accumulating body of SE and SES knowledge in the form of models and patterns. By organizing and integrating all these elements into a common framework, the author makes the material not only easily accessible but also immediately applicable, and provides a well-grounded basis for future growth and evolution of the SE discipline.

This book focuses on the basic science recently produced in Brazil for the improvement of sugarcane as a bioenergy crop and as a raw material for 2nd generation bioethanol production. It reports achievements that have been advancing the science of cell walls, enzymes, genetics, and sustainability related to sugarcane technologies and give continuity to the research reported in the “Routes to Cellulosic Ethanol”, from Springer. The Introduction (Chapter I) explains how the National Institute of Science and Technology of Bioethanol, founded in 2008 in Brazil, became part of the main international initiatives that started to search for forms to use biomass for bioethanol production in Brazil, US and Europe. Part I reports the advances in plant cell wall composition, structure and architecture, and physical characteristics of sugarcane biomass. These discoveries are opening the way to increased efficiency of pretreatments and hydrolysis, being therefore important information for 2nd generation processes as well as for biorefinery initiatives. Part II focuses on the discovery and characterization of hydrolases from microorganisms that could be used in industrial processes. Recent advances in the search for hydrolases using metagenomics is reported. A great number of genes and enzymes from microorganisms have been discovered, affording improvement of enzyme cocktails better adapted to sugarcane biomass. Part III reports two key issues in the process of 2G ethanol, pentose fermentation and sugarcane genetics. These are the discoveries of new yeast species capable of producing ethanol more efficiently from xylose and the advances made on the sugarcane genetics, a key issue to design varieties adapted to 2G ethanol production. Part IV approaches sustainability through two chapters, one discussing the sustainability of the sugarcane agricultural and environmental system and another discussing how national and mainly international policies of Brazil regarding 2G ethanol production affected the country’s strategies to establish itself as an international player in renewable energy area.

A reference that offers comprehensive discussions on every important aspect of aluminum bonding for each level of manufacturing from mill finished to deoxidized, conversion coated, anodized, and painted surfaces and provides an extensive, up-to-date review of adhesion science, covering all significa

February issue includes Appendix entitled Directory of United States Government periodicals and subscription publications; September issue includes List of depository libraries; June and December issues include semiannual index

In this book, we study theoretical and practical aspects of computing methods for mathematical modelling of nonlinear systems. A number of computing techniques are considered, such as methods of operator approximation with any given accuracy; operator interpolation techniques including a non-Lagrange interpolation; methods of system representation subject to constraints associated with concepts of causality, memory and stationarity; methods of system representation with an accuracy that is the best within a given class of models; methods of covariance matrix estimation; methods for low-rank matrix approximations; hybrid methods based on a combination of iterative procedures and best operator approximation; and methods for information compression and filtering under condition that a filter model should satisfy restrictions associated with causality and different types of memory. As a result, the book represents a blend of new methods in general computational analysis, and specific, but also generic, techniques for study of systems theory ant its particular branches, such as optimal filtering and information compression. - Best operator approximation, - Non-Lagrange interpolation, - Generic Karhunen-Loeve transform - Generalised low-rank matrix approximation - Optimal data compression - Optimal nonlinear filtering

He offers a number of case histories to show that by the end of the eighteenth century, recourse to "matter of fact" became pervasive, and the new claims for history were met by skepticism in a debate that still echoes today."--BOOK JACKET.

Business Process Change: A Business Process Management Guide for Managers and Process Professionals, Fourth Edition, provides a balanced view of the field of business process change. Bestselling author and renowned expert in the field Paul Harmon offers concepts, methods, cases for all aspects, and phases of successful business process improvement. Students and professionals alike will benefit from the comprehensive coverage and customizable, integrated approach to broad business process management that focuses on improving efficiency and productivity. In this updated Edition, particular attention is paid to the impact of disruptive technology on business and the need for agile transformation. Covers Business Process Management Systems and the integration of process redesign and Six Sigma Explores how different process elements fit together, including the human aspects of process redesign Presents best-practice methodologies that can be applied and tailored to an organization’s specific needs Offers invaluable, detailed case studies demonstrating how these key methods are implemented

This book presents a brief review of the main re sults obtained in two new branches of plasma physics that have developed rapidly in the last decade following the launching of artificial satellites. The aim has been to illuminate results that have a certain completeness and permanent nature and will retain their significance and be used in further investigations. A further aim has been, as far as possible, to acquaint the reader with the most recent achievements in these interesting branches of modern science. The first chapter of the book contains some data, theoretical results, and formulas that will be used to consider different types of wave phenomena that occur in the ionosphere, magnetosphere, and the solar wind. The second chapter contains experimental and theoretical re sults obtained from the study of the flow of plasmas around bodies. Here, theory predominates over experiment, which reflects the state of development of these inves tigations. The results of the second chapter will un doubtedly retain their significance in the future. The writing of the third chapter presented the most difficult problem. The literature is being continuously augmented with the results of investigations of wave processes that occur in the plasma that is nearest to the Earth -- re gions of the ionosphere at an altitude of 200-300 km and more -- out to distances from the Earth of millions of kilometers -- in the solar wind. We shall refer to all this region of plasma as the near-Earth plasma.