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Federal Register 2013

The Chicago Plan Revisited Mr.Jaromir Benes 2012-08-01 At the height of the Great Depression a number of leading U.S. economists advanced a proposal for monetary reform that became known as the Chicago Plan. It envisaged the separation of the monetary and credit functions of the banking system, by requiring 100% reserve backing for deposits. Irving Fisher (1936) claimed the following advantages for this plan: (1) Much better control of a major source of business cycle fluctuations, sudden increases and contractions of bank credit and of the supply of bank-created money. (2) Complete elimination of bank runs. (3) Dramatic reduction of the (net) public debt. (4) Dramatic reduction of private debt, as money creation no longer requires simultaneous debt creation. We study these claims by embedding a comprehensive and carefully calibrated model of the banking system in a DSGE model of the U.S. economy. We find support for all four of Fisher's claims. Furthermore, output gains approach 10 percent, and steady state inflation can drop to zero without posing problems for the conduct of monetary policy.

Using Science as Evidence in Public Policy National Research Council 2012-10-31 Using Science as Evidence in Public Policy encourages scientists to think differently about the use of scientific evidence in policy making. This report investigates why scientific evidence is important to policy making and argues that an extensive body of research on knowledge utilization has not led to any widely accepted explanation of what it means to use science in public policy. Using Science as Evidence in Public Policy identifies the gaps in our understanding and develops a framework for a new field of research to fill those gaps. For social scientists in a number of specialized fields, whether established scholars or Ph.D. students, Using Science as Evidence in Public Policy shows how to bring their expertise to bear on the study of using science to inform public policy. More generally, this report will be of special interest to scientists who want to see their research used in policy making, offering guidance on what is required beyond producing quality research, beyond translating results into more understandable terms, and beyond brokering the results through intermediaries, such as think tanks, lobbyists, and advocacy groups. For administrators and faculty in public policy programs and schools, Using Science as Evidence in Public Policy identifies critical elements of instruction that will better equip graduates to promote the use of science in policy making.

Overcoming Barriers to Deployment of Plug-in Electric Vehicles National Research Council 2015-06-26 In the past few years, interest in plug-in electric vehicles (PEVs) has grown. Advances in battery and other technologies, new federal standards for carbon-dioxide emissions and fuel economy, state zero-emission-vehicle requirements, and the current administration's goal of putting millions of alternative-fuel vehicles on the road have all highlighted PEVs as a transportation alternative. Consumers are also beginning to recognize the advantages of PEVs over conventional vehicles, such as lower operating costs, smoother operation, and better acceleration; the ability to fuel up at home; and zero tailpipe emissions when the vehicle operates solely on its battery. There are, however, barriers to PEV deployment, including the vehicle cost, the short all-electric driving range, the long battery charging time, uncertainties about battery life, the few choices of vehicle models, and the need for a charging infrastructure to support PEVs. What should industry do to improve the performance of PEVs and make them more attractive to consumers? At the request of Congress, Overcoming Barriers to Deployment of Plug-in Electric Vehicles identifies barriers to the introduction of electric vehicles and recommends ways to mitigate these barriers. This report examines the characteristics and capabilities of electric vehicle technologies, such as cost, performance, range, safety, and durability, and assesses how these factors might create barriers to widespread deployment. Overcoming Barriers to Deployment of Plug-in Electric Vehicles provides an overview of the current status of PEVs and makes recommendations to spur the industry and increase the attractiveness of this promising technology for consumers. Through consideration of consumer behaviors, tax incentives, business models, incentive programs, and infrastructure needs, this book studies the state of the industry and makes recommendations to further its development and acceptance.

Open Access Peter Suber 2012-07-20 A concise introduction to the basics of open access, describing what it is (and isn't) and showing that it is easy, fast, inexpensive, legal, and beneficial. The Internet lets us share perfect copies of our work with a worldwide audience at virtually no cost. We take advantage of this revolutionary opportunity when we make our work "open access": digital, online, free of charge, and free of most copyright and licensing restrictions. Open access is made possible by the Internet and copyright-holder consent, and many authors, musicians, filmmakers, and other creators who depend on royalties are understandably unwilling to give their consent. But for 350 years, scholars have written peer-reviewed journal articles for impact, not for money, and are free to consent to open access without losing revenue. In this concise introduction, Peter Suber tells us what open access is and isn't, how it benefits authors and readers of research, how we pay for it, how it avoids copyright problems, how it has moved from the periphery to the mainstream, and what its future may hold. Distilling a decade of Suber's influential writing and thinking about open access, this is the indispensable book on the subject for researchers, librarians, administrators, funders, publishers, and policy makers.

The Bont Tick Charles P. Lounsbury 1899

Coercive Care Bernadette Mcsherry 2013-06-26 There has been much debate about mental health law reform and mental capacity legislation in recent years with the UN Convention on the Rights of Persons with Disabilities also having a major impact on thinking about the issue. This edited volume explores the concept of 'coercive care' in relation to individuals such as those with severe mental illnesses, those with intellectual and cognitive disabilities and those with substance use problems. With a focus on choice and capacity the book explores the impact of and challenges posed by the provision of care in an involuntary environment. The contributors to the book look at mental health, capacity and vulnerable adult's care as well as the law related to those areas. The book is split into four parts which cover: human rights and coercive care; legal capacity and coercive care; the legal coordination of coercive care and coercive care and individuals with cognitive impairments. The book covers new ground by exploring issues arising from the coercion of persons with various disabilities and vulnerabilities, helping to illustrate how the capacity to provide consent to treatment and care is impaired by reason of their condition.

Algebraic Geometry over Co-Rings Dominic Joyce 2019-09-05 If X is a manifold then the R -algebra $C^\infty(X)$ of smooth functions $C^\infty(X) \rightarrow R$ is a C^∞ -ring. That is, for each smooth function $f: R^n \rightarrow R$ there is an n -fold operation $\Phi_f: C^\infty(X)^n \rightarrow C^\infty(X)$ acting by $\Phi_f: (c_1, \dots, c_n) \mapsto f(c_1, \dots, c_n)$, and these operations Φ_f satisfy many natural identities. Thus, $C^\infty(X)$ actually has a far richer structure than the obvious R -algebra structure. The author explains the foundations of a version of algebraic geometry in which rings or algebras are replaced by C^∞ -rings. As schemes are the basic objects in algebraic geometry, the new basic objects are C^∞ -schemes, a category of geometric objects which generalize manifolds and whose morphisms generalize smooth maps. The author also studies quasicoherent sheaves on C^∞ -schemes, and C^∞ -stacks, in particular Deligne-Mumford C^∞ -stacks, a 2-category of geometric objects generalizing orbifolds. Many of these ideas are not new: C^∞ -rings and C^∞ -schemes have long been part of synthetic differential geometry. But the author develops them in new directions. In earlier publications, the author used these tools to define d -manifolds and d -orbifolds, "derived" versions of manifolds and orbifolds related to Spivak's "derived manifolds".

Native Games Chris Hallinan 2013 Research on Indigenous participation in sport offers many opportunities to better understand the political issues of equality, empowerment, self-determination and protection of culture and identity. This volume compares and conceptualises the sociological significance of Indigenous sports in different international contexts. The contributions, all written by Indigenous scholars and those working directly in Indigenous/Native Studies units, provide unique studies of contemporary experiences of Indigenous sports participation. The papers investigate current understandings of Indigeneity found to circulate throughout sports, sports organisations and Indigenous communities. by (1): situating attitudes to racial and cultural difference within the broader sociological processes of post colonial Indigenous worlds (2): interrogating perceptions of Indigenous identity with reference to contemporary theories of identity drawn from Indigenous Studies and (3): providing insight to increased Indigenous participation, empowerment and personal development through sport with reference to sociological theory.

Re-entry and Planetary Entry Physics and Technology W.H.T. Loh 2012-12-06 During the last decade, a rapid growth of knowledge in the field of re-entry and planetary entry has resulted in many significant advances useful to the student, engineer and scientist. The purpose of offering this course is to make available to them these recent significant advances in physics and technology. Accordingly, this course is organized into five parts: Part 1, Entry Dynamics, Thermodynamics, Physics and Radiation; Part 2, Entry Ablation and Heat Transfer; Part 3, Entry Experimentation; Part 4, Entry Concepts and Technology; and Part 5, Advanced Entry Programs. It is written in such a way so that it may easily be adopted by other universities as a textbook for a two semesters senior or graduate course on the subject. In addition to the undersigned who served as the course instructor and wrote Chapters, 1, 2, 3 and 4, guest lecturers included: Prof. FRANKLIN K. MOORE who wrote Chapter 5 "Entry Radiative Transfer," Prof. SHIH-I PAU who wrote Chapter 6 "Entry Radiation-Magnetogasdynamics," Dr. CARL GAZLEY, Jr. who wrote Chapter 7 "Entry Deacceleration and Mass Change of an Ablating Body," Dr. SINCLAIRE M. SCALA who wrote Chapter 8 "Entry Heat Transfer and Material Response," Mr.

The Seven Sins of Wall Street Bob Ivy 2014-03-11 We all know that the financial crisis of 2008 came dangerously close to pushing the United States and the world into a depression rivaling that of the 1930s. But what is astonishing -- and should make us not just afraid but very afraid -- are the shenanigans of the biggest banks since the crisis. Bob Ivy passionately, eloquently, and convincingly details the operative ineptitude of America's best-compensated executives and the ways the government kowtows to what it mistakenly imagines is their competence and success. Ivy shows that the only thing that has changed since the meltdown is how too-big-to-fail banks and their fellow travelers in Washington have nudged us ever closer to an even bigger economic calamity. Informed by deep reporting from New York, Washington, and the heartland, *The Seven Sins of Wall Street*, like no other book, shows how we're all affected by the financial industry's inhumanity. The transgressions of "Wall Street titans" and "masters of the universe" are paid for by real people. In fierce, plain English, Ivy indicts a financial industry that continues to work for the few at the expense of the rest of us. Problems that financiers deemed too complicated to be understood by ordinary folks are shown by Ivy to be financial legerdemain -- a smokescreen of complexity and jargon that hide the bankers' nefarious activities. *The Seven Sins of Wall Street* is irreverent and timely, an infuriating black comedy. The Great Depression of the 1930s moved the American political system to real reform that kept the finance industry in check. With millions so deeply affected since the crisis of 2008, you'll finish this book asking yourself how it is that so many of the nation's leading financial institutions remain such exasperating problem children.

History of Acquisition in the Department of Defense, Volume 1 Elliott V. Converse 2012-06-12 This volume is a history of the acquisition of major weapon systems by the United States armed forces from 1945 to 1960, the decade and a half that spanned the Truman and Eisenhower administrations following World War II. These instruments of warfare--aircraft, armored vehicles, artillery, guided missiles, naval vessels, and supporting electronic systems--when combined with nuclear warheads, gave the postwar American military unprecedented deterrent and striking power.1 They were also enormously expensive. The volume is organized chronologically, with individual chapters addressing the roles of OSD, the Army, Navy, and Air Force in two distinct periods. The first, roughly coinciding with President Truman's tenure, covers the years from the end of World War II through the end of the Korean War in 1953. The second spans the two terms of the Eisenhower presidency from 1953 through early 1961. The year 1953 marked a natural breakpoint between the two periods. The Korean War had ended. President Eisenhower and his defense team began implementing the "New Look," a policy and strategy based on nuclear weapons, which they believed would provide security and make it possible to reduce military spending. The New Look's stress on nuclear weapons, along with the deployment of the first operational guided missiles and the rapid advances subsequently made in nuclear and missile technology, profoundly influenced acquisition in the services throughout the 1950s and the remainder of the century. As used in this study, the term "acquisition" encompasses the activities by which the United States obtains weapons and other equipment. In surveying the history of acquisition between 1945 and 1960, this study discusses or refers in passing to many of the hundreds of weapon system programs initiated by the services in that period, but it is not a weapons encyclopedia. Instead, it investigates a few major programs in depth in the belief that such detailed examination best reveals the evolution of acquisition policies, organizations, and processes, and the various forces influencing weapons programs.

Overgroups of Root Groups in Classical Groups Michael Aschbacher 2016-04-26 The author extends results of McLaughlin and Kantor on overgroups of long root subgroups and long root elements in finite classical groups. In particular he determines the maximal subgroups of this form. He also determines the maximal overgroups of short root subgroups in finite classical groups and the maximal overgroups in finite orthogonal groups of C -root subgroups.

10 Years UPSC CAPF Assistant Commandant (2021 - 2012) Solved Papers I & II with 5 Practice Sets Disha Experts 2021-09-01

You Are Here Hiawatha Bray 2014-04-01 The story of the rise of modern navigation technology, from radio location to GPS--and the consequent decline of privacy What does it mean to never get lost? You Are Here examines the rise of our technologically aided era of navigational omniscience--or how we came to know exactly where we are at all times. In a sweeping history of the development of location technology in the past century, Bray shows how radio signals created to

carry telegraph messages were transformed into invisible beacons to guide ships and how a set of rapidly-spinning wheels steered submarines beneath the polar icecap. But while most of these technologies were developed for and by the military, they are now ubiquitous in our everyday lives. Our phones are now smart enough to pinpoint our presence to within a few feet--and nosy enough to share that information with governments and corporations. Filled with tales of scientists and astronauts, inventors and entrepreneurs, *You Are Here* tells the story of how humankind ingeniously solved one of its oldest and toughest problems--only to herald a new era in which it's impossible to hide.

Technological Innovation in Legacy Sectors William B. Bonvillian 2015-08-18 The American economy faces two deep problems: expanding innovation and raising the rate of quality job creation. Both have roots in a neglected problem: the resistance of Legacy economic sectors to innovation. While the U.S. has focused its policies on breakthrough innovations to create new economic frontiers like information technology and biotechnology, most of its economy is locked into Legacy sectors defended by technological/ economic/ political/ social paradigms that block competition from disruptive innovations that could challenge their models. Americans like to build technology "covered wagons" and take them "out west" to open new innovation frontiers; we don't head our wagons "back east" to bring innovation to our Legacy sectors. By failing to do so, the economy misses a major opportunity for innovation, which is the bedrock of U.S. competitiveness and its standard of living. Technological Innovation in Legacy Sectors uses a new, unifying conceptual framework to identify the shared features underlying structural obstacles to innovation in major Legacy sectors: energy, air and auto transport, the electric power grid, buildings, manufacturing, agriculture, health care delivery and higher education, and develops approaches to understand and transform them. It finds both strengths and obstacles to innovation in the national innovation environments - a new concept that combines the innovation system and the broader innovation context - for a group of Asian and European economies. Manufacturing is a major Legacy sector that presents a particular challenge because it is a critical stage in the innovation process. By increasingly offshoring production, the U.S. is losing important parts of its innovation capacity. "Innovate here, produce here," where the U.S. took all the gains of its strong innovation system at every stage, is being replaced by "innovate here, produce there," which threatens to lead to "produce there, innovate there." To bring innovation to Legacy sectors, authors William Bonvillian and Charles Weiss recommend that policymakers focus on all stages of innovation from research through implementation. They should fill institutional gaps in the innovation system and take measures to address structural obstacles to needed disruptive innovations. In the specific case of advanced manufacturing, the production ecosystem can be recreated to reverse "jobless innovation" and add manufacturing-led innovation to the U.S.'s still-strong, research-oriented innovation system.

Environmental Risk Assessment Ted Simon 2014-02-05 The purpose of risk assessment is to support science-based decisions about how to solve complex societal problems. The problems we face in the twenty-first century have many social, political, and technical complexities. Environmental risk assessment in particular is of increasing importance as a means of seeking to address the potential effects of chemicals in the environment in both the developed and developing world. Environmental Risk Assessment: A Toxicological Approach examines various aspects of problem formulation, exposure, toxicity, and risk characterization that apply to both human health and ecological risk assessment. The book is aimed at the next generation of risk assessors and students who need to know more about developing, conducting, and interpreting risk assessments. It delivers a comprehensive view of the field, complete with sufficient background to enable readers to probe for themselves the science underlying the key issues in environmental risk. Written in an engaging and lively style by a highly experienced risk assessment practitioner, the text: Introduces the science of risk assessment--past, present, and future Covers problem formation and the development of exposure factors Explains how human epidemiology and animal testing data are used to determine toxicity criteria Provides environmental sampling data for conducting practice risk assessments Examines the use of in vitro and 'omics methods for toxicity testing Describes the political and social aspects of science-based decisions in the twenty-first century Includes fully worked examples, case studies, discussion questions, and links to legislative hearings Readers of this volume will not only learn how to execute site-specific human health and ecological risk assessments but also gain a greater understanding of how science is used in deciding environmental regulations.

Strengthening Forensic Science in the United States National Research Council 2009-07-29 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.

The SAGE Handbook of Human Rights Anja Mihr 2014-07-21 The SAGE Handbook of Human Rights will comprise a two volume set consisting of more than 50 original chapters that clarify and analyze human rights issues of both contemporary and future importance. The Handbook will take an inter-disciplinary approach, combining work in such traditional fields as law, political science and philosophy with such non-traditional subjects as climate change, demography, economics, geography, urban studies, mass communication, and business and marketing. In addition, one of the aspects of mainstreaming is the manner in which human rights has come to play a prominent role in popular culture, and there will be a section on human rights in art, film, music and literature. Not only will the Handbook provide a state of the art analysis of the discipline that addresses the history and development of human rights standards and its movements, mechanisms and institutions, but it will seek to go beyond this and produce a book that will help lead to prospective thinking.

Elemental Germans Christoph Laucht 2012-05-15 Christoph Laucht offers the first investigation into the roles played by two German-born emigre atomic scientists, Klaus Fuchs and Rudolf Peierls, in the development of British nuclear culture, especially the practice of nuclear science and the political implications of the atomic scientists' work, from the start of the Second World War until 1959.

Research Summary Jet Propulsion Laboratory (U.S.) 1960

A Copyright Masquerade Monica Horten 2013-08-08 When thousands marched through ice and snow against a copyright treaty, their cries for free speech on the Internet shot to the heart of the European Union and forced a political U-turn. The mighty entertainment industries could only stare in dismay, their back-room plans in tatters. This highly original analysis of three attempts to bring in new laws to defend copyright on the Internet - ACTA, Ley Sinde and the Digital Economy Act - investigates the dance of influence between lobbyists and their political proxies and unmasks the sophistry of their arguments. Copyright expert Monica Horten outlines the myriad ways that lobbyists contrived to bypass democratic process and persuade politicians to take up their cause in imposing an American corporate agenda. In doing so, she argues the case for stronger transparency in copyright policy-making. A Copyright Masquerade is essential reading for anyone who cares about copyright and the Internet, and to those who care about freedom of speech and good government.

Imprimitive Irreducible Modules for Finite Quasisimple Groups Gerhard Hiss 2015-02-06 Motivated by the maximal subgroup problem of the finite classical groups the authors begin the classification of imprimitive irreducible modules of finite quasisimple groups over algebraically closed fields K . A module of a group G over K is imprimitive, if it is induced from a module of a proper subgroup of G . The authors obtain their strongest results when $\text{char}(K) \neq 0$, although much of their analysis carries over into positive characteristic. If G is a finite quasisimple group of Lie type, they prove that an imprimitive irreducible KG -module is Harish-Chandra induced. This being true for $\text{Yrm char}(K)$ different from the defining characteristic of G , the authors specialize to the case $\text{char}(K) = 0$ and apply Harish-Chandra philosophy to classify irreducible Harish-Chandra induced modules in terms of Harish-Chandra series, as well as in terms of Lusztig series. The authors determine the asymptotic proportion of the irreducible imprimitive KG -modules, when G runs through a series groups of fixed (twisted) Lie type. One of the surprising outcomes of their investigations is the fact that these proportions tend to 1, if the Lie rank of the groups tends to infinity. For exceptional groups G of Lie type of small rank, and for sporadic groups G , the authors determine all irreducible imprimitive KG -modules for arbitrary characteristic of K .

Recapturing a Future for Space Exploration National Research Council 2012-01-30 More than four decades have passed since a human first set foot on the Moon. Great strides have been made in our understanding of what is required to support an enduring human presence in space, as evidenced by progressively more advanced orbiting human outposts, culminating in the current International Space Station (ISS). However, of the more than 500 humans who have so far ventured into space, most have gone only as far as near-Earth orbit, and none have traveled beyond the orbit of the Moon. Achieving humans' further progress into the solar system had proved far more difficult than imagined in the heady days of the Apollo missions, but the potential rewards remain substantial. During its more than 50-year history, NASA's success in human space exploration has depended on the agency's ability to effectively address a wide range of biomedical, engineering, physical science, and related obstacles--an achievement made possible by NASA's strong and productive commitments to life and physical sciences research for human space exploration, and by its use of human space exploration infrastructures for scientific discovery. The Committee for the Decadal Survey of Biological and Physical Sciences acknowledges the many achievements of NASA, which are all the more remarkable given budgetary challenges and changing directions within the agency. In the past decade, however, a consequence of those challenges has been a life and physical sciences research program that was dramatically reduced in both scale and scope, with the result that the agency is poorly positioned to take full advantage of the scientific opportunities offered by the now fully equipped and staffed ISS laboratory, or to effectively pursue the scientific research needed to support the development of advanced human exploration capabilities. Although its review has left it deeply concerned about the current state of NASA's life and physical sciences research, the Committee for the Decadal Survey on Biological and Physical Sciences in Space is nevertheless convinced that a focused science and engineering program can achieve successes that will bring the space community, the U.S. public, and policymakers to an understanding that we are ready for the next significant phase of human space exploration. The goal of this report is to lay out steps and develop a forward-looking portfolio of research that will provide the basis for recapturing the excitement and value of human spaceflight--thereby enabling the U.S. space program to deliver on new exploration initiatives that serve the nation, excite the public, and place the United States again at the forefront of space exploration for the global good.

Rearming for the Cold War 1945 -- 1960 Elliot V. Converse III 2012

Outer Continental Shelf Oil and Gas Leasing Program, 2012-2017 United States. Bureau of Ocean Energy Management 2011 **Advances in Computational Intelligence** Ignacio Rojas 2015-06-05 This two-volume set LNCS 9094 and LNCS 9095 constitutes the thoroughly refereed proceedings of the 13th International Work-Conference on Artificial Neural Networks, IWANN 2015, held in Palma de Mallorca, Spain, in June 2013. The 99 revised full papers presented together with 1 invited talk were carefully reviewed and selected from 195 submissions. The papers are organized in topical sections on brain-computer interfaces; applications and tele-services; multi-robot systems; applications and theory (MRSAT); video and image processing; transfer learning; structures, algorithms and methods in artificial intelligence; interactive and cognitive environments; mathematical and theoretical methods in fuzzy systems; pattern recognition; embedded intelligent systems; expert systems; advances in computational intelligence; and applications of computational intelligence.

Outer Continental Shelf Oil and Gas Leasing Program, 2012-2017 2011

Strengthening Data Science Methods for Department of Defense Personnel and Readiness Missions National Academies of Sciences, Engineering, and Medicine 2017-02-06 The Office of the Under Secretary of Defense (Personnel & Readiness), referred to throughout this report as P&R, is responsible for the total force management of all Department of Defense (DoD) components including the recruitment, readiness, and retention of personnel. Its work and policies are supported by a number of organizations both within DoD, including the Defense Manpower Data Center (DMDC), and externally, including the federally funded research and development centers (FFRDCs) that work for DoD. P&R must be able to answer questions for the Secretary of Defense such as how to recruit people with an aptitude for and interest in various specialties and along particular career tracks and how to assess on an ongoing basis service members' career satisfaction and their ability to meet new challenges. P&R must also address larger-scale questions, such as how the

current realignment of forces to the Asia-Pacific area and other regions will affect recruitment, readiness, and retention. While DoD makes use of large-scale data and mathematical analysis in intelligence, surveillance, reconnaissance, and elsewhere—exploiting techniques such as complex network analysis, machine learning, streaming social media analysis, and anomaly detection—these skills and capabilities have not been applied as well to the personnel and readiness enterprise. Strengthening Data Science Methods for Department of Defense Personnel and Readiness Missions offers and roadmap and implementation plan for the integration of data analysis in support of decisions within the purview of P&R.

Current Catalog National Library of Medicine (U.S.) 1968 Includes subject section, name section, and 1968-1970, technical reports.

Spacecraft Dynamics and Control Enrico Canuto 2018-03-08 Spacecraft Dynamics and Control: The Embedded Model Control Approach provides a uniform and systematic way of approaching space engineering control problems from the standpoint of model-based control, using state-space equations as the key paradigm for simulation, design and implementation. The book introduces the Embedded Model Control methodology for the design and implementation of attitude and orbit control systems. The logic architecture is organized around the embedded model of the spacecraft and its surrounding environment. The model is compelled to include disturbance dynamics as a repository of the uncertainty that the control law must reject to meet attitude and orbit requirements within the uncertainty class. The source of the real-time uncertainty estimation/prediction is the model error signal, as it encodes the residual discrepancies between spacecraft measurements and model output. The embedded model and the uncertainty estimation feedback (noise estimator in the book) constitute the state predictor feeding the control law. Asymptotic pole placement (exploiting the asymptotes of closed-loop transfer functions) is the way to design and tune feedback loops around the embedded model (state predictor, control law, reference generator). The design versus the uncertainty class is driven by analytic stability and performance inequalities. The method is applied to several attitude and orbit control problems. The book begins with an extensive introduction to attitude geometry and algebra and ends with the core themes: state-space dynamics and Embedded Model Control. Fundamentals of orbit, attitude and environment dynamics are treated giving emphasis to state-space formulation, disturbance dynamics, state feedback and prediction, closed-loop stability. Sensors and actuators are treated giving emphasis to their dynamics and modelling of measurement errors. Numerical tables are included and their data employed for numerical simulations. Orbit and attitude control problems of the European GOCE mission are the inspiration of numerical exercises and simulations. The suite of the attitude control modes of a GOCE-like mission is designed and simulated around the so-called mission state predictor. Solved and unsolved exercises are included within the text - and not separated at the end of chapters - for better understanding, training and application. Simulated results and their graphical plots are developed through MATLAB/Simulink code.

Irreducible Almost Simple Subgroups of Classical Algebraic Groups Timothy C. Burness 2015-06-26 Let G be a simple classical algebraic group over an algebraically closed field of characteristic with natural module V . Let H be a closed subgroup of G and let W be a nontrivial H -restricted irreducible tensor indecomposable rational H -module such that the restriction of W to H is irreducible. In this paper the authors classify the triples of this form, where H is a disconnected almost simple positive-dimensional closed subgroup of acting irreducibly on V . Moreover, by combining this result with earlier work, they complete the classification of the irreducible triples where H is a simple algebraic group over F , and V is a maximal closed subgroup of positive dimension.

Aerospace Materials and Material Technologies N. Eswara Prasad 2016-11-07 This book serves as a comprehensive resource on various traditional, advanced and futuristic material technologies for aerospace applications encompassing nearly 20 major areas. Each of the chapters addresses scientific principles behind processing and production, production details, equipment and facilities for industrial production, and finally aerospace application areas of these material technologies. The chapters are authored by pioneers of industrial aerospace material technologies. This book has a well-planned layout in 4 parts. The first part deals with primary metal and material processing, including nano manufacturing. The second part deals with materials characterization and testing methodologies and technologies. The third part addresses structural design. Finally, several advanced material technologies are covered in the fourth part. Some key advanced topics such as “Structural Design by ASIP”, “Damage Mechanics-Based Life Prediction and Extension” and “Principles of Structural Health Monitoring” are dealt with at equal length as the traditional aerospace materials technology topics. This book will be useful to students, researchers and professionals working in the domain of aerospace materials.

Study and Master Physical Sciences Grade 11 CAPS Learner's Book Karin H. Kelder 2012-09-10 Study & Master Physical Sciences Grade 11 has been especially developed by an experienced author team for the Curriculum and Assessment Policy Statement (CAPS). This new and easy-to-use course helps learners to master essential content and skills in Physical Sciences. The comprehensive Learner's Book: • explains key concepts and scientific terms in accessible language and provides learners with a glossary of scientific terminology to aid understanding. • provides for frequent consolidation in the Summative assessments at the end of each module • includes case studies that link science to real-life situations and present balanced views on sensitive issues • includes 'Did you know?' features providing interesting additional information • highlights examples, laws and formulae in boxes for easy reference.

Handbook of Cannabis Roger Pertwee 2014-08-21 Truly global in scope and with contributions from leading researchers around the world, The Handbook of Cannabis is the definitive resource on this fascinating drug. Combining scientific perspectives and clinical applications, it covers a vast array of topics, from why over the centuries cannabis has been used as a medicine, through the regulations facing those wishing to self-administer cannabis or provide cannabis-based medicines, to the chemical structure of its many constituents and the rapidly growing group of synthetic cannabinoids that are currently being used for 'legal highs'. With each chapter written by a group of one or more internationally recognised subject experts, it provides academics and researchers with authoritative scientific material on the main

pharmacological actions and their effects, as well as their pharmacokinetics, metabolism, and forensic detection. In addition it also examines the complex morphology, cultivation, harvesting, and processing of cannabis and the ways in which the plant's chemical composition can be controlled. As well as offering a raft of scientific information there is extensive coverage of cannabinoid-based medicines. Helping readers to identify and evaluate their benefits, chapters explore pharmacological actions and the effects that seem to underlie approved therapeutic uses, how they are currently used to treat certain disorders, and the ever-growing number of wide-ranging potential clinical applications. There is also coverage of both the legal and illegal sources of cannabis, including 'coffee shops' and 'cannabis dispensaries'. The complex issue of 'recreational cannabis' is also tackled. The sought-after and adverse psychological and non-psychological effects are described and discussions are included on how some adverse effects can be lessened by at least one constituent of cannabis, and that it might be possible to reduce the harm that cannabis does to some by changing current regulatory policies. The Handbook of Cannabis is a one-stop reference; essential reading for all clinicians, pharmacologists, psychologists, and psychiatrists interested in this drug, as well as those working in the field of public health.

World Ocean Assessment World Ocean Assessment team 2017-04-30

Army Leadership and the Profession (ADP 6-22) Headquarters Department of the Army 2019-10-09 ADP 6-22 describes enduring concepts of leadership through the core competencies and attributes required of leaders of all cohorts and all organizations, regardless of mission or setting. These principles reflect decades of experience and validated scientific knowledge. An ideal Army leader serves as a role model through strong intellect, physical presence, professional competence, and moral character. An Army leader is able and willing to act decisively, within superior leaders' intent and purpose, and in the organization's best interests. Army leaders recognize that organizations, built on mutual trust and confidence, accomplish missions. Every member of the Army, military or civilian, is part of a team and functions in the role of leader and subordinate. Being a good subordinate is part of being an effective leader. Leaders do not just lead subordinates—they also lead other leaders. Leaders are not limited to just those designated by position, rank, or authority.

Cities Ian Douglas 2013-05-30 Cities are amongst our greatest creations. Yet, with cities now home to over half the world's population, there is increasing concern over their unchecked expansion and the detrimental effect this is having on the planet. This unfettered growth is affecting every ecosystem on Earth, from the deepest oceans to the highest mountains, as induced climate change and ever increasing demands upon the world's resources take effect. As the pace of urbanisation quickens, how can we make the world's cities more sustainable? Ian Douglas tells the story of cities. He shows why they exist, how they have evolved and the problems they have encountered, revealing how from the very beginning environmental management played a key role in urban life. He addresses specific problems, such as noise and air pollution, water supply and waste management, as well as the vulnerability of cities to hazards such as earthquakes and flooding. And he considers strategies to make cities more sustainable and help them adapt to climate change, such as waste recycling, energy conservation, dual water systems, sustainable housing, as well as initiatives to retrofit existing cities. Written by an acknowledged international authority, this unique volume will be welcomed by students and specialists in environment, planning, geography, ecology and the built environment.

Alternative Accountabilities in Global Politics Brent J. Steele 2013 In fields such as politics, international relations, public administration and international law, there is a rapidly growing interest in the topic of 'accountability'. In this innovative new work, Steele shows how we might recognize how an alternative form of accountability in global politics has been present for some time, and that, furthermore, this form's continued presence remains one of the most politically powerful, if not enduring, possibilities for resistance in the near future. This book argues that the physical and visually shocking outcomes of violence found on the bodies of humans, as well as the buildings and landscapes which surround us, specifically the scars they leave behind, remain one of our most compelling forms of accountability. Steele develops the theoretical argument on scars and exteriority utilizing insights from several philosophical and theoretical resources including Hannah Arendt, Erving Goffmann, and Richard Rorty. The work examines scars and their effects through several illustrations, including the accounts of Emmett Till, Iranian protestor Neda Agha-Soltan, the Syrian boy Hamza al-Khateeb, the massacre in WWII and then memorializing throughout the 20th century of the Lidice children in the modern-day Czech Republic, the particular architecturally destructive outcomes of the 2008-9 Gaza War, the loss of the Twin Towers in New York, as well as a variety of violent scars found on the landscapes of Europe and Southeast Asia. Emphasizing the importance of the space and 'time' of scars, the book illustrates how an alternative form of accountability in the scar can be a useful, disruptive, spontaneous, but also creative practice to challenge the discourses of violence which remain with us today.

Assessment of Advanced Solid-State Lighting National Research Council 2013-04-27 The standard incandescent light bulb, which still works mainly as Thomas Edison invented it, converts more than 90% of the consumed electricity into heat. Given the availability of newer lighting technologies that convert a greater percentage of electricity into useful light, there is potential to decrease the amount of energy used for lighting in both commercial and residential applications. Although technologies such as compact fluorescent lamps (CFLs) have emerged in the past few decades and will help achieve the goal of increased energy efficiency, solid-state lighting (SSL) stands to play a large role in dramatically decreasing U.S. energy consumption for lighting. This report summarizes the current status of SSL technologies and products—light-emitting diodes (LEDs) and organic LEDs (OLEDs)—and evaluates barriers to their improved cost and performance. Assessment of Advanced Solid State Lighting also discusses factors involved in achieving widespread deployment and consumer acceptance of SSL products. These factors include the perceived quality of light emitted by SSL devices, ease of use and the useful lifetime of these devices, issues of initial high cost, and possible benefits of reduced energy consumption.