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SpringerBriefs in Applied Sciences and Technology Springer Briefs in applied sciences and technology. PoliMI SpringerBriefs Low Voltage Power MOSFETs Introduction to Scientific Publishing Micromagnetics and Recording Materials High-Dimensional Covariance Matrix Estimation Introduction to Robotics Control Systems for Power Electronics Control Theory Tutorial Applied Multidimensional Scaling Understanding Policy Decisions Formability Smart Metering Design and Applications A Short Course in Computational Geometry and Topology Thermal Plasma Processing of Ilmenite Measuring Space Power Sharing by Design Fault Current Limiters Wearing Embodied Emotions Mechanics of Soccer Heading and Protective Headgear Innovation Capacity and the City Thermal Comfort Assessment of Buildings Metallic Microlattice Structures Sharing by Design Flow Boiling in Microgap Channels Electricity-based Fuels The Coupling of Safety and Security Finite Element Method in Machining Processes Navigating Safety One-dot Theory Described, Explained, Inferred, Justified, and Applied Texture Feature Extraction Techniques for Image Recognition Fundamentals of Statistical Inference Commercial Space Exploration The Neuroscientific Basis of Successful Design The Rise of Private Actors in the Space Sector Machine Learning in Social Networks Materials that Move The Data Shake Towards Mesoscience Beyond Safety Training

Beyond Safety Training Apr 16 2020 This book is open access under a CC BY 4.0 license. This book investigates why, despite more and more resources devoted to safety training, expectations are not entirely met, particularly in the industrial sectors that have already achieved a high safety level. It not only reflects the most precious viewpoints of experts from different disciplines, different countries, with experiences in various industrial fields at the cutting edge of theories and practices in terms of safety, professionalization and their relationships. It also consolidates the positioning of the Foundation for an Industrial Safety Culture, highlighting what is currently considered at stake in terms of safety training, taking into account the system of constraints the different stakeholders are submitted to. It reports some success stories as well as elements which could explain the observed plateau in terms of outcome. It identifies some levers for evolution for at-risk industry and outlines a possible research agenda to go further with experimental solutions.

Materials that Move Jul 20 2020 This book presents a design-driven investigation into smart materials developed by chemists, physicists, materials and chemical engineers, and applied by designers to consumer products, buildings, interfaces, or textiles. Introducing a class of smart materials (referred to as stimuli-responsive, morphing or kinetic materials) that move and change their shape in response to stimuli, the book presents their characteristics, advantages, potentials, as well as the difficulties involved in their application. The book also presents a large number of case studies on products, projects, concepts, and experiments employing smart materials, thus mapping out new design territories for these innovative materials. The case studies involve different fields of design, including product, interior, fashion, and communication design. Reflecting the growing demand for sustainable and human-centered

design agendas, the book explores and reveals the role and influence of these new materials and technologies on design and human experience, and discusses how they can be used to redefine our objects and spaces so as to promote more resilient environments. The book offers an intriguing and valuable resource for design professionals, engineers, scientists and students alike.

A Short Course in Computational Geometry and Topology Jul 12 2022 This monograph presents a short course in computational geometry and topology. In the first part the book covers Voronoi diagrams and Delaunay triangulations, then it presents the theory of alpha complexes which play a crucial role in biology. The central part of the book is the homology theory and their computation, including the theory of persistence which is indispensable for applications, e.g. shape reconstruction. The target audience comprises researchers and practitioners in mathematics, biology, neuroscience and computer science, but the book may also be beneficial to graduate students of these fields.

Mechanics of Soccer Heading and Protective Headgear Jan 06 2022 This short book provides a concise study of the mechanics of head impact in a soccer heading manoeuvre. It describes the development and validation of finite element models of soccer ball and human head, as well as the simulation of brain dynamics after ball-to-head impact. In addition, it also presents a computational study of the efficacy of wearing protective headgear in mitigating the risk of concussion due to heading in soccer.

The Data Shake Jun 18 2020 This open access book represents one of the key milestones of PoliVisu, an H2020 research and innovation project funded by the European Commission under the call “ Policy-development in the age of big data: data-driven policy-making, policy-modelling and policy-implementation ” . It investigates the operative and organizational implications related to the use of the growing amount of available data on policy making processes, highlighting the experimental dimension of policy making that, thanks to data, proves to be more and more exploitable towards more effective and sustainable decisions. The first section of the book introduces the key questions highlighted by the PoliVisu project, which still represent operational and strategic challenges in the exploitation of data potentials in urban policy making. The second section explores how data and data visualisations can assume different roles in the different stages of a policy cycle and profoundly transform policy making.

Navigating Safety Mar 28 2021 Managing safety in a professional environment requires constant negotiation with other competitive dimensions of risk management (finances, market and political drivers, manpower and social crisis). This is obvious, although generally not said in safety manuals. The book provides a unique vision of how to best find these compromises, starting with lessons learnt from natural risk management by individuals, then applying them to the craftsman industry, complex industrial systems (civil aviation, nuclear energy) and public services (like transportation and medicine). It offers a unique, illustrated, easy to read and scientifically based set of original concepts and pragmatic methods to revisit safety management and adopt a successful system vision. As such, and with illustrations coming from many various fields (aviation, fishing, nuclear, oil, medicine), it potentially covers a broad readership.

Low Voltage Power MOSFETs Jun 23 2023 Low Voltage Power MOSFETs focuses on the design of low voltage power MOSFETs and the relation between the device structure and the performance of a power MOSFET used as a switch in power management applications. This SpringerBriefs close the gap between detailed engineering reference books and the numerous

technical papers on the subject of power MOSFETs. The material presented covers low voltage applications extending from battery operated portable electronics, through point of load converters, internet infrastructure, automotive applications, to personal computers and server computers. The issues treated in this volume are explained qualitatively using schematic illustrations, making the discussion easy to follow for all prospective readers.

Metallic Microlattice Structures Oct 03 2021 This work reviews the current state of the art in metallic microlattice structures, manufactured using the additive manufacturing processes of selective laser melting, electron beam melting, binder jetting and photopolymer wave guides. The emphasis is on structural performance (stiffness, strength and collapse). The field of additively manufactured metallic microlattice structures is fast changing and wide ranging, and is being driven by developments in manufacturing processes. This book takes a number of specific structural applications, viz. sandwich beams and panels, and energy absorbers, and a number of conventional metallic materials, and discusses the use of additive manufactured metallic microlattice structures to improve and enhance these structural performances. Structural performances considered includes such non linear effects as plasticity, material rupture, elastic and plastic instabilities, and impact loading. The specific discussions are put into the context of wider issues, such as the effects of realisation processes, the effects of structural scale, use of sophisticated analysis and synthesis methodologies, and the application of existing (conventional) structural theories. In this way, the specific discussions are put into the context of the emerging general fields of Architected (Architected) Materials and Mechanical Metamaterials.

Introduction to Robotics Feb 19 2023 This book is focused on geometrical models of robot mechanisms. Rotation and orientation of an object are described by Rodrigues's formula, rotation matrix and quaternions. Pose and displacement of an object are mathematically dealt with homogenous transformation matrices. The geometrical robot model is based on Denavit Hartenberg parameters. Direct and inverse model of six degrees of freedom anthropomorphic industrial robots are also presented.

Formability Sep 14 2022 - Overview of materials and treatment aspects of manufacturability of sheet metal - Written by an industrial expert turned scientist - Concentrates on the formability of sheet metal, one of the fundamental form material is used in metalworking

Towards Mesoscience May 18 2020 This brief is devoted to providing a complete outline of meso-science by briefing the relevant contents from the published book and by updating evidences and concepts of meso-science. The importance of meso-science in solving various problems in energy, resource, and the environment is introduced. The whole evolutionary development of the EMMS principle is reviewed to show how a simple idea on the customized modeling of particle clustering in gas-solid systems was developed, verified, extended, and finally generalized into the common principle of compromise in competition between dominant mechanisms for all mesoscale phenomena in science and engineering, leading to the proposition of meso-science. More importantly, updates on the concept of meso-science and perspectives are presented, along with new insights and findings from after the publication of the original book. In this way, we hope to help readers more easily familiarize themselves with meso-science, and to trigger interest and attention to this interdisciplinary field. Application areas include: multiphase flow and fluid dynamics chemical, biochemical and process engineering mineral processing and metallurgical engineering energy and resources material science and engineering Jinghai Li is vice president of Chinese Academy of Sciences (CAS), professor at Institute of Process Engineering of CAS. Wenlai Huang is associate professor at

Institute of Process Engineering of CAS. This book has been translated into Chinese and published by Science Press, please visit here for the Chinese version:
<http://www.sciencep.com/ssingle.php?id=35751>

Fundamentals of Statistical Inference Dec 25 2020 This book provides a coherent description of foundational matters concerning statistical inference and shows how statistics can help us make inductive inferences about a broader context, based only on a limited dataset such as a random sample drawn from a larger population. By relating those basics to the methodological debate about inferential errors associated with p-values and statistical significance testing, readers are provided with a clear grasp of what statistical inference presupposes, and what it can and cannot do. To facilitate intuition, the representations throughout the book are as non-technical as possible. The central inspiration behind the text comes from the scientific debate about good statistical practices and the replication crisis. Calls for statistical reform include an unprecedented methodological warning from the American Statistical Association in 2016, a special issue “ Statistical Inference in the 21st Century: A World Beyond $p < 0.05$ ” of *The American Statistician* in 2019. The book elucidates the probabilistic foundations and the potential of sample-based inferences, including random data generation, effect size estimation, and the assessment of estimation uncertainty caused by random error. Based on a thorough understanding of those basics, it then describes the p-value concept and the null-hypothesis-significance-testing ritual, and finally points out the ensuing inferential errors. This provides readers with the competence to avoid ill-guided statistical routines and misinterpretations of statistical quantities in the future. Intended for readers with an interest in understanding the role of statistical inference, the book provides a prudent assessment of the knowledge gain that can be obtained from a particular set of data under consideration of the uncertainty caused by random error. More particularly, it offers an accessible resource for graduate students as well as statistical practitioners who have a basic knowledge of statistics. Last but not least, it is aimed at scientists with a genuine methodological interest in the above-mentioned reform debate.

Wearing Embodied Emotions Feb 07 2022 Today, people are in an era of digitally mediated Human-to-Human Interaction, which cannot provide full sensorial contact and therefore, emotions cannot be communicated completely. The intimate cover of the human body, i.e. garment is the interface, where many personal traits are embodied. With the improvements in textile and electronics industry, this embodiment can be carried on a higher level, where the garments become dynamic interfaces and extensions of the human body. This book consists of a research on skin, clothes and technology as extensions of human body, emotions, technology-mediated emotions and a design practice that explores the communicative level of wearable technology through turning it into a living surface, which can convert intangible data to tangible in order to provide an emotional communication. This book aims to show how Human-Technology interaction is carried into an alternative context, where technology dissolves in use and starts serving for enhancing HHI.

Thermal Comfort Assessment of Buildings Nov 04 2021 A number of metrics for assessing human thermal response to climatic conditions have been proposed in scientific literature over the last decades. They aim at describing human thermal perception of the thermal environment to which an individual or a group of people is exposed. More recently, a new type of “ discomfort index ” has been proposed for describing, in a synthetic way, long-term phenomena. Starting from a systematic review of a number of long-term global discomfort indices, they are then contrasted and compared on a reference case study in order to identify

their similarities and differences and strengths and weaknesses. Based on this analysis, a new short-term local discomfort index is proposed for the American Adaptive comfort model. Finally, a new and reliable long-term general discomfort index is presented. It is delivered in three versions and each of them is suitable to be respectively coupled with the Fanger, the European Adaptive and the American Adaptive comfort models.

Sharing by Design Sep 02 2021 This book answers the question of how to design a sharing system that can promote sustained, meaningful, and socially constructive sharing practices in today ' s cities. To do so, it constructs a framework for practical inquiry into the design of sharing systems. Further, the book invites readers to consider questions such as: If sharing can be designed, then how does one design a sharing system for cities? Which urban conditions make this sharing system possible? What are the considerations, variables, and methods that can inform and guide the designers of a sharing system? By considering both the environmental and societal motivations for sharing, and the reality that most examples of the Sharing Economy are neither equitable in their socio-economic outcomes nor genuine in their original social promises, this book presents balanced and thoughtful answers to the questions posed above. The book will appeal to a broad readership, from students and teachers in the various design disciplines, to professionals and scholars in architecture and urbanism, business and innovation, and other related fields of the humanities and social sciences, as well as activists and policymakers committed to achieving more sustainable and equitably distributed access to urban resources.

The Rise of Private Actors in the Space Sector Sep 21 2020 This book provides a broad set of information and data on the rise of private actors in the space sector, organized into different topics covering the various trends that have shaped the space sector during the last decade. The book, written in a descriptive fashion, concludes with recommendations for future analytical research on the topic.

Understanding Policy Decisions Oct 15 2022 This book proposes a model for understanding how innovative policy decisions are taken in complex political and organizational systems as well as the possible strategies that the promoter of the innovation can employ in order to maximize the probability of successful adoption and implementation. It presents a conceptual framework for the analysis of decisional situations in order to design the most appropriate strategies for overcoming conflict (e.g. of the NIMBY variety) and/or increasing the engagement of potentially interested actors. The book includes a template for decisional case studies, a protocol for the definition of a decisional strategy, and an exercise in decisional analysis.

Control Systems for Power Electronics Jan 18 2023 The scope of the book covers most of the aspects as a primer on power electronics starting from a simple diode bridge to a DC-DC convertor using PWM control. The thyristor-bridge and the mechanism of designing a closed loop system are discussed in chapter one, two and three. The concepts are applied in the fourth chapter as a case study for buck converter which uses MOSFETs as switching devices and the closed loop system is elaborated in the fifth chapter. Chapter six is focused on the embedded system basics and the implementation of controls in the digital domain. Chapter seven is a case study of application of an embedded control system for a DC motor. With this book, the reader will find it easy to work on the practical control systems with microcontroller implementation. The core intent of this book is to help gain an accelerated learning path to practical control system engineering and transform control theory to an implementable control system through electronics. Illustrations are provided for most of the examples with

fundamental mathematics along with simulations of the systems with their respective equations and stability calculations.

Innovation Capacity and the City Dec 05 2021 This open access book represents one of the key milestones of DESIGNSCAPES, an H2020 CSA (Coordination and Support Action) research project funded by the European Commission under the Call “ User-driven innovation: value creation through design-enabled innovation ” . The book demonstrates that adopting design allows us to embed innovation within the city so as to arrive at feasible answers to complex global challenges. In this way, innovation can become disruptive, while also sparking a dynamic of gradual change in the “ urbanscape ” it acts within. To explore this potential, the book puts forward the concept of “ design enabled innovation in urban environments ” and examines the part that the city can play in promoting and facilitating the adoption of design among public and private sector innovators. This leads to a potential evaluation framework in which a given urbanscape is assessed both in terms of its capacity for generating innovation, and of the nature (more or less design-dependent or design-prone) of the innovative initiatives it hosts. This thread of reasoning holds many promising implications, including a possible “ third way ” between those who dream of an alternative economic model where revenues and growth are sacrificed on the altar of social and environmental respect, and the supporters of the traditional market-based view, who feel it is enough to add a touch of responsibility and concern to a system that should continue rewarding the profitability of innovations.

Electricity-based Fuels Jun 30 2021 This book discusses the needs of future energy systems with a focus on the electricity and transportation sectors. The general idea behind electricity based fuel is explained, the current status and future potential developments of this technology are presented. A main challenge in the production of electricity based fuels is the fluctuating energy input from renewable electricity generation. The arising design and optimization targets for integrated power-to-fuel plants are discussed, also presenting plant design and operation strategies. The book gives an outlook on future expected production costs of electricity based fuels and compares it with fossil fuels and alternatives.

Measuring Space Power May 10 2022 This book provides an in-depth investigation of the concept of space power and devises a novel conceptual framework for empirically measuring and comparing different typologies of space actors on the basis of clearly defined criteria. In turn, the book identifies a comprehensive set of conditions required to achieve and maintain the status of space power and explores the main political, security, and socio-economic stakes involved. Building on this basis, the book conducts a comparative assessment of the major space actors, the underlying aim of which is to examine Europe ’ s relative position in the space arena and put into perspective its proclaimed goal to assert itself as a space power, with all of the means and resources this would entail. Given its scope, the book represents a valuable and versatile tool to support European decision-making and offers key insights for executives, space professionals and scholars alike.

Applied Multidimensional Scaling Nov 16 2022 This book introduces MDS as a psychological model and as a data analysis technique for the applied researcher. It also discusses, in detail, how to use two MDS programs, Proxscal (a module of SPSS) and Smacof (an R-package). The book is unique in its orientation on the applied researcher, whose primary interest is in using MDS as a tool to build substantive theories. This is done by emphasizing practical issues (such as evaluating model fit), by presenting ways to enforce theoretical expectations on the MDS solution, and by discussing typical mistakes that MDS users tend to make. The primary audience of this book are psychologists, social scientists, and market researchers. No

particular background knowledge is required, beyond a basic knowledge of statistics.

Finite Element Method in Machining Processes Apr 28 2021 Finite Element Method in Machining Processes provides a concise study on the way the Finite Element Method (FEM) is used in the case of manufacturing processes, primarily in machining. The basics of this kind of modeling are detailed to create a reference that will provide guidelines for those who start to study this method now, but also for scientists already involved in FEM and want to expand their research. A discussion on FEM, formulations, and techniques currently in use is followed up by machining case studies. Orthogonal cutting, oblique cutting, 3D simulations for turning and milling, grinding, and state-of-the-art topics such as high speed machining and micromachining are explained with relevant examples. This is all supported by a literature review and a reference list for further study. As FEM is a key method for researchers in the manufacturing and especially in the machining sector, Finite Element Method in Machining Processes is a key reference for students studying manufacturing processes but also for industry professionals.

The Neuroscientific Basis of Successful Design Oct 23 2020 The term “ design ” today encompasses attributes of artifacts that go beyond their intended functions, imbuing them with new meanings. Those meanings are deeply related to the emotions perceived by the users. This book investigates the findings deriving from the neurosciences that are relevant to design. Drawing upon up-to-date neuroscientific knowledge, the authors define what an emotion is, examine the relationship between perceptions and emotions and discuss the role of metaphoric communication. Particular attention is paid to those elements of perception and metaphoric interpretation that cause the emotions to rise. Consequences for the design process are then considered and a design process is proposed that takes into account emotional impacts as one of the goals. A solid scientific approach to the subject is maintained throughout and understanding is facilitated by the inclusion of a rich collection of successful design artifacts, the emotional aspects of which are analyzed.

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The Coupling of Safety and Security May 30 2021 This open access book explores the synergies and tensions between safety and security management from a variety of perspectives and by combining input from numerous disciplines. It defines the concepts of safety and security, and discusses the methodological, organizational and institutional implications that accompany approaching them as separate entities and combining them, respectively. The book explores the coupling of safety and security from different perspectives, especially: the concepts and methods of risk, safety and security; the managerial aspects; user experiences in connection with safety and security. Given its scope, the book will be of interest to researchers and practitioners in the fields of safety and security, and to anyone working at a business or in an industry concerned with how safety and security should be managed.

Machine Learning in Social Networks Aug 21 2020 This book deals with network representation learning. It deals with embedding nodes, edges, subgraphs and graphs. There is a growing interest in understanding complex systems in different domains including health, education, agriculture and transportation. Such complex systems are analyzed by modeling, using networks that are aptly called complex networks. Networks are becoming ubiquitous as they can represent many real-world relational data, for instance, information networks, molecular structures, telecommunication networks and protein–protein interaction networks. Analysis of these networks provides advantages in many fields such as recommendation (recommending friends in a social network), biological field (deducing connections between proteins for treating new diseases) and community detection (grouping users of a social

network according to their interests) by leveraging the latent information of networks. An active and important area of current interest is to come out with algorithms that learn features by embedding nodes or (sub)graphs into a vector space. These tasks come under the broad umbrella of representation learning. A representation learning model learns a mapping function that transforms the graphs' structure information to a low-/high-dimension vector space maintaining all the relevant properties.

Introduction to Scientific Publishing May 22 2023 This book is a very concise introduction to the basic knowledge of scientific publishing. It starts with the basics of writing a scientific paper, and recalls the different types of scientific documents. It gives an overview on the major scientific publishing companies and different business models. The book also introduces to abstracting and indexing services and how they can be used for the evaluation of science, scientists, and institutions. Last but not least, this short book faces the problem of plagiarism and publication ethics.

SpringerBriefs in Applied Sciences and Technology Aug 25 2023

Control Theory Tutorial Dec 17 2022 This open access Brief introduces the basic principles of control theory in a concise self-study guide. It complements the classic texts by emphasizing the simple conceptual unity of the subject. A novice can quickly see how and why the different parts fit together. The concepts build slowly and naturally one after another, until the reader soon has a view of the whole. Each concept is illustrated by detailed examples and graphics. The full software code for each example is available, providing the basis for experimenting with various assumptions, learning how to write programs for control analysis, and setting the stage for future research projects. The topics focus on robustness, design trade-offs, and optimality. Most of the book develops classical linear theory. The last part of the book considers robustness with respect to nonlinearity and explicitly nonlinear extensions, as well as advanced topics such as adaptive control and model predictive control. New students, as well as scientists from other backgrounds who want a concise and easy-to-grasp coverage of control theory, will benefit from the emphasis on concepts and broad understanding of the various approaches. Electronic codes for this title can be downloaded from

<https://extras.springer.com/?query=978-3-319-91707-8>

Micromagnetics and Recording Materials Apr 21 2023 "Micromagnetics and Recording Materials" is a book trying to give a systematic theory of computational applied magnetism, based on Maxwell equations of fields and Landau-Lifshitz equations of magnetic moments. The focused magnetic materials are magnetic recording materials utilized in computer hard disk drives. Traditionally, "Micromagnetics" includes the areas of "magnetization curve theory", "domain theory" and "read and write process analyses in recording systems". As Springer Briefs, this book includes the first two areas of micromagnetics. M-H loops of hard magnetic thin film media, soft magnetic layers and Tunneling MagnetoResistive spin valves are solved based on the microstructures of thin films. Static domain structures and dynamic switching processes are analyzed in the arbitrary-shaped magnetic devices such as write head pole tips and magnetic force microscope tips. The book is intended for researchers who are interested in applied magnetism and magnetic recording in all disciplines of physical science. Prof. Dan Wei works at Tsinghua University, China.

Smart Metering Design and Applications Aug 13 2022 Taking into account the present day trends and the requirements, this Brief focuses on smart metering of electricity for next generation energy efficiency and conservation. The contents include discussions on the smart metering concepts and existing technologies and systems as well as design and

implementation of smart metering schemes together with detailed examples.

Thermal Plasma Processing of Ilmenite Jun 11 2022 This book shows how to prepare titania rich slag from metallized ilmenite using thermal plasma processing. The author reveals the development of a thermal plasma process alternative to the current used ones, which are highly energy costly. The appropriate design of the plasma reactor, which is crucial for achieving reduced energy consumption, is described in this book. The content can be of interest for industrial purposes.

Commercial Space Exploration Nov 23 2020 This book offers a comprehensive overview of current space exploration in terms of geopolitical and commercial aspects. Despite multiple attempts to foster commercial activities in the field of space exploration, for decades the domain largely continued to be funded and led by governments in the form of national and international programmes. However, the situation changed with the retirement of the Space Shuttle and the introduction of NASA ' s Commercial Orbital Transportation Services (COTS) programme, which employed an innovative procurement scheme based on competitive, performance-based, fixed-price milestones. The success of this programme marked an important milestone in the evolution of the relationship between government and industry. The growing opportunities for private actors to make more prominent contributions to space exploration also lie in the " New Space " ecosystem, a sectoral transformation characterised by a substantial increase in private investment and the emergence of commercial efforts to develop disruptive concepts and address new markets.

Texture Feature Extraction Techniques for Image Recognition Jan 26 2021 The book describes various texture feature extraction approaches and texture analysis applications. It introduces and discusses the importance of texture features, and describes various types of texture features like statistical, structural, signal-processed and model-based. It also covers applications related to texture features, such as facial imaging. It is a valuable resource for machine vision researchers and practitioners in different application areas.

One-dot Theory Described, Explained, Inferred, Justified, and Applied Feb 24 2021 The ancient Chinese scholars are fond of applying the Yin and Yang diagram to correlate almost everything. This book continues that tradition and uses the model to study other non- " dialectical " theories and models. The major finding qua contribution in this publication is to point out that the four diagrams are equivalent to the BaGua or BaGuaTu (BG), a set of eight ancient China symbolic notations/gossip. Another finding is that dialectical/crab and frog motion remark is just the opposite of a non-dialectical/crab and frog motion (usually deductive, linear, or cause and effect) remark, or, at best, they must meet half-way. The two major tasks of this book are to, first, apply the author's one-dot theory, which is shored up by the crab and frog motion model, to convert other theories and models as well as studies and, second, apply his theory and model to reinvent some well-known western-derived theories and models and studies, such as game theory. The attempt is to narrow down the gap between the East and the West scholarship/XueShu, broadly defined, making the book of interest to Eastern and Western philosophers and scholars alike.

High-Dimensional Covariance Matrix Estimation Mar 20 2023 This book presents covariance matrix estimation and related aspects of random matrix theory. It focuses on the sample covariance matrix estimator and provides a holistic description of its properties under two asymptotic regimes: the traditional one, and the high-dimensional regime that better fits the big data context. It draws attention to the deficiencies of standard statistical tools when used in the high-dimensional setting, and introduces the basic concepts and major results related to

spectral statistics and random matrix theory under high-dimensional asymptotics in an understandable and reader-friendly way. The aim of this book is to inspire applied statisticians, econometricians, and machine learning practitioners who analyze high-dimensional data to apply the recent developments in their work.

Flow Boiling in Microgap Channels Aug 01 2021 Flow Boiling in Microgap Channels: Experiment, Visualization and Analysis presents an up-to-date summary of the details of the confined to unconfined flow boiling transition criteria, flow boiling heat transfer and pressure drop characteristics, instability characteristics, two phase flow pattern and flow regime map and the parametric study of microgap dimension. Advantages of flow boiling in microgaps over microchannels are also highlighted. The objective of this Brief is to obtain a better fundamental understanding of the flow boiling processes, compare the performance between microgap and conventional microchannel heat sinks, and evaluate the microgap heat sink for instabilities and hotspot mitigation.

Sharing by Design Apr 09 2022 This book answers the question of how to design a sharing system that can promote sustained, meaningful, and socially constructive sharing practices in today ' s cities. To do so, it constructs a framework for practical inquiry into the design of sharing systems. Further, the book invites readers to consider questions such as: If sharing can be designed, then how does one design a sharing system for cities? Which urban conditions make this sharing system possible? What are the considerations, variables, and methods that can inform and guide the designers of a sharing system? By considering both the environmental and societal motivations for sharing, and the reality that most examples of the Sharing Economy are neither equitable in their socio-economic outcomes nor genuine in their original social promises, this book presents balanced and thoughtful answers to the questions posed above. The book will appeal to a broad readership, from students and teachers in the various design disciplines, to professionals and scholars in architecture and urbanism, business and innovation, and other related fields of the humanities and social sciences, as well as activists and policymakers committed to achieving more sustainable and equitably distributed access to urban resources.

Fault Current Limiters Mar 08 2022 This book presents a comprehensive survey of fault current limiters (FCLs) and their applications in power system to cope with the fault current. The book reviews characteristics, technologies, topologies, working principles, applications, and the interaction of FCLs with the power system. In the attempts to develop FCL with close to ideal attributes, academic researchers and companies offer the different configurations that are mostly classified into non-superconducting fault current limiters and superconducting fault current limiters (SFCLs). Both categories are included in this book, and therefore, it can serve as an excellent stepping-stone for senior and/or graduate students who are interested in knowing the reason of the increase in short circuit level in the power system, fault current limitation measures, benefits and drawbacks of the application of FCLs in power systems, the state-of-the-art of fault current limitation techniques, as well as recent advances in this area.

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