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To reduce the amount of Rare-earth Elements in high efficient permanent magnet electric motors, the magnetic stray flux has to be reduced. Additionally, a temperature reduction inside the motor reduces the necessary amount of the so called Heavy Rare-earth Elements, which account for the bulk part of the magnet material costs. In this thesis a permanent magnet motor in wet rotor configuration for an automotive application is designed. It was shown that by simple thermal improvements of the electric insulation system the maximum temperature of the stator can be reduced. Extensive measurements on different combinations of insulation material of the stator and the development of a new thermal model for orthocyclic wound stators were performed. Due to the use of fiber cans eddy current losses could be eliminated and the stray flux minimized. In a second stage a magnetizing fixture was build up, which is able to magnetize the buried magnets inside the rotor. The rotor and the magnetizing fixture was developed, so that the magnets can be optimal magnetized. To check the quality of the magnets the magnetizing coil was developed in a way, such that the hysteresis curve of every single magnet during magnetization can be measured. Different magnets were tested and ways to calculate parasitics are given. Um die Menge an Selten Erden in hoch-effizienten permanent erregten Elektromotoren zu reduzieren, muss der magnetische Streufluss verringert werden. Eine Temperaturreduktion im Motor verringert zudem die nötige Menge an so genannten schweren Selten Erden, welche einen Großteil der Kosten der Magnetmaterialien ausmachen. In dieser Arbeit wird dazu ein permanent erregter Nassläufer für eine automotive Anwendung ausgelegt. Es konnte gezeigt werden, dass durch einfache Maßnahmen im Bereich der elektrischen Isolation die maximale Temperatur im Stator reduziert werden konnte. Umfangreiche Messungen an verschiedenen Kombinationen von elektrischen Isolationen des Stators und die Entwicklung eines neuen thermischen Modells für orthozyklisch gewickelte Statoren wurden getätigt. Durch Einsatz von Spaltrohren aus Faserverbundwerkstoffen konnten die Wirbelstromverluste beseitigt werden und der Streufluss minimiert werden. In einem zweiten Schritt wurde eine Magnetisiervorrichtung aufgebaut, mit der die zu Anfang unmagnetisierten eingebetteten Magneten im Rotor aufmagnetisiert werden konnten. Der Rotor wurde zudem zusammen mit der Magnetisierungsspule so ausgelegt, dass die Magnete optimal magnetisiert werden können. Um die Qualität der Magnete zu testen wurde die Magnetisierungsspule zudem so ausgelegt, dass eine Messung der Hystereseurve jedes einzelnen Magneten während der Magnetisierung möglich ist. Verschiedene Magnete wurden vermessen und Möglichkeiten zur Bestimmung von parasitären Effekten gegeben. This report is based on an exhaustive review of the published literature on the definitions, measurements, epidemiology, economics and interventions applied to nine chronic conditions and risk factors.

Allen I. Laskin Biosciences Research Exxon Research and Engineering Company Linden, New Jersey I was contacted in the Fall of 1981 by Professors Martin Dworkin and Palmer Rogers, of the University of Minnesota and asked to participate in the organization of the 1983 conference in the series, "Interface Between Biology and Medicine". They and the other members of the advisory committee had the vision to realize that this was a time to depart somewhat from the traditional theme, since one of the major areas of interest in the biological and related sciences these days is that of biotechnology in a broader sense than its impact on medicine alone. In designing the format of the Conference, we considered another factor. There has been a plethora of conferences, symposia, and meetings on biotechnology over the past few years, and the faces and topics have become rather familiar. There has been a strong emphasis on the development of the technology and the "biotechnology industry"; less attention has been paid to the science behind it. One might get the impression from some of these meetings and from the popular press that biotechnology has just recently sprung up, apparently full blown; the very fundamental scientific discoveries and the great body of 1 ALLEN I. LASKIN 2 continuing research that forms that basis for the technology is often obscured.

Grassland farming in Europe was already established during the settlement of the first farmers together with their domesticated animals after the last ice age. Since then, grassland provides the forage basis to feed ruminant animals for the production of meat and milk. Depending on the ecological conditions and intensity of usage, various plant communities with different species developed, displaying a rich biodiversity. With the introduction of improved crop rotations at the end of the 16th century, grasses and legumes were also grown to an important extent as forage crops on arable land. In the last decades the importance of amenity grasses increased markedly, due to the demand of the society for new usages like landscape protection. Around 1900 interested farmers and academics identified the need for grassland improvement through systematic selection and seed production. This marks the beginning of breeding and research in companies but also at universities and specialized research institutes. Plant collection started with many of the species that are still of importance today. The collected materials were grouped according to the intended use and some type of phenotypic selection was applied. Seed multiplication of such populations was performed in pure stands and the harvested seed was marketed. Although the vegetative biomass and its quality are of utmost importance in forage crop breeding, it is the seed yield potential which determines the commercial success of a new variety.

The Book of Silk follows the story of this remarkable material through 5,000 years, reproducing hundreds of fabrics, furnishings, and garments from all parts of the world. From ancient China, where the secret of reeling silkworm cocoons was first discovered, the narrative leads by the legendary Silk Routes to Byzantium and the Islamic world, to Ottoman Turkey and India - and on to the Renaissance, baroque, and rococo silks of Western Christendom. In modern times the fashion industry yields a wonderful array of designs from Fortuny, Balenciaga, Poiret, and Schiaparelli, among others. A dazzling selection of illustrations, many drawn from private collections, reveals silk's omnipresence in couture and decoration, carpets, embroidery, and even painting. Complete with a detailed reference section that includes terms and technical processes, collecting and care, galleries and museums, and a bibliography, The Book of Silk will appeal to anyone interested in history, fashion, and beauty.

Accounting is the discipline with the oldest historical culture, being the first to be recognized by humanity when Adam and Eve were made to account for what they did in paradise. It is also the only discipline that will come into play in the Hereafter, where everybody would be raised up as an accountant - to account for all they have done during their life time on earth! Accounting is a service-providing discipline, with a rich theoretical background, which makes available information (especially financial) to guide various decision-making processes. Business owners, creditors, managers, prospective investors, government and its agencies, employees and even the general public seek accounting information to guide them when taking various informed decisions about reporting entities and the environment within which they operate. This book addresses the historical accounting culture, its theories as well as its practices. It is made up of fifteen chapters, covering various historical, theoretical and practical aspects of Accounting, ranging from accounting standardization to financial reporting. The book is an attempt to address some of the lacunae

in advanced accounting issues, both in theory and in practice. Students of advanced accounting theory and practice at the professional and academic levels in Universities, Polytechnics and Professional Institutes would find the book an essential companion.

Authors Terry E. Miller and Andrew Shahriari take students around the world to experience the diversity of musical expression. *World Music: A Global Journey*, now in its third edition, is known for its breadth in surveying the world's major cultures in a systematic study of world music within a strong pedagogical framework. As one prepares for any travel, each chapter starts with background preparation, reviewing the historical, cultural, and musical overview of the region. Visits to multiple 'sites' within a region provide in-depth studies of varied musical traditions. Music analysis begins with an experimental "first impression" of the music, followed by an "aural analysis" of the sound and prominent musical elements. Finally, students are invited to consider the cultural connections that give the music its meaning and life. Features of the Third Edition Over 3 hours of diverse musical examples. with a third audio CD of new musical examples Listening Guides analyze the various pieces of music with some presented in an interactive format online Biographical highlights of performers and ethnomusicologists updated and new ones added Numerous pedagogical aids, including "On Your Own Time" and "Explore More" sidebars, and "Questions to Consider" Popular music incorporated with the traditional Dynamic companion web site hosts new Interactive Listening Guides, plus many resources for student and instructor. Built to serve online courses. The CD set is available separately (ISBN 978-0-415-89402-9) or with its Value Pack and book (ISBN 978 0415- 80823-1). For eBook users, MP3 files for the accompanying audio files are available only with the Value Pack of eBook & MP3 files (ISBN 978-0-203-15298-0). Please find instructions on how to obtain the audio files in the contents section of the eBook.

Documents the Dubai royal family's considerable efforts to win the current year's Kentucky Derby, noting how they have already spent upwards of \$75 million and are challenging the way American horsemen have been training for decades.

The word cleaning covers a wide range of activities from good housekeeping and janitorial duties to clinical process cleaning applications that form part of our everyday lives, most people are not aware of their existence, and yet without them, many of the services and products we take for granted would not be available. Most chapters include case studies of various cleaning problems together with the solutions offered. Emphasis is placed on the practical aspects of designing, manufacturing and operating cleaning equipment, this includes a detailed examination of traditional cleaning methods, and considers a number of lesser known techniques that have been developed over recent years together with a glimpse of the future trends in the industry In addition to the actual cleaning techniques, the book examines the effect, of increasing international health, safety, training, and environmental legislation together with regulations that control cleaning standards in the pharmaceuticals, cosmetics, food and drinks manufacturing industries. In this respect, the book is not intended to be a definitive reference book. Legislation and regulations are continually being upgraded, particularly those relating to European Directives. No apologies are given for the fact that the reader will be continually reminded of the need to obtain up to date copies of the various documents referred to, and to secure expert advice on those issues that are crucial in terms of health, safety and hazardous conditions. To assist the reader, useful information sources are listed in the reference section following each chapter. jkljk

This text explains the process of the design of product electronic enclosures. These products typically contain a printed circuit board. The text takes the reader from the original idea for a product, through the shipment in quantity to a customer. For the product enclosure designer, this proceeds through design layout, material selection, prototype building, testing, and ongoing design improvement. The book presents a substantive and lucid treatment of the structural, thermal, user-interface, assembly, quality control, and cost considerations of the product enclosure. Of special note is a discussion on the regulatory issues involved with the design of a product. A main thrust of the text is on the "commercialization" aspects of electronic products, that is, when an enclosure is needed for the product to meet environmental and certification requirements globally. The book targets the broadest audience tasked to design/manufacture an enclosure, from mechanical/industrial engineers to designers and technicians. While the intent of the text is not to provide a complete understanding of relevant physical phenomena addressed (strength of materials, shock and vibration, heat transfer), the book provides a ready reference on how and where these key properties may be considered in the design of most electronic enclosures. Elucidates successful enclosure design for electronic products, defining the design team and the definition of success Explains the processes for building enclosures, including printed circuit board layout (mechanical considerations) and optimal object placement, structural considerations, material selection, and user interface design Includes treatment of serviceability, product environments, standards and testing, cooling techniques as well as guidelines for Electromagnetic Compliance (EMC) standards and testing required to pass FCC/CE Reinforces design concepts presented with relevant solved problems

This book provides a comprehensive and systematic overview of the recent developments in cotton production and processing, including a number of genetic approaches, such as GM cotton for pest resistance, which have been hotly debated in recent decades. In the era of climate change, cotton is facing diverse abiotic stresses such as salinity, drought, toxic metals and environmental pollutants. As such, scientists are developing stress-tolerant cultivars using agronomic, genetic and molecular approaches. Gathering papers on these developments, this timely book is a valuable resource for a wide audience, including plant scientists, agronomists, soil scientists, botanists, environmental scientists and extension workers.

The Asia region now has more than half the world's population and contributes half the world's annual population growth. *Urban Education in the United States* examines the development of schools in the large cities of the USA. John Rury, a well-known historian of education, introduces and highlights the most significant and classic essays dealing with urban schooling in this collection. *Urban Education in the United States* will provide an introduction to critical themes in the history of city schools and will frame each section with an overview of urban education research during particular periods in US history.

Grasslands are among the largest ecosystems in the world and consequently are of great importance to mankind. The genotypes of the species which are the main components of the grasslands have great influence on total outcome and successful utilization of grasslands. Therefore fodder crops and turf swards should be constantly improved to follow modern trends in agriculture production and landscape architecture. The wide range of breeding programs for forage and amenity species, as well as new breeding methods and techniques, is rapidly expanding the boundaries and is making it possible to achieve outstanding breeding results. This book includes papers presented at the 30th EUCARPIA Fodder Crops and Amenity Grasses Section Meeting. The challenging title of the book focuses on breeding of quantitative traits, which directly impact the profitability and sustainability of grasslands and fodder crops production, as well as on multidisciplinary approach in grassland research and utilisation. Included

papers offer a unique collection of ideas and breakthroughs in the fields of fodder crops and amenity grasses breeding and genetics, as well as in the creative and innovative application of new tools in practical breeding.

Uncovers how colonial administrators, postcolonial governments and international aid agencies have promoted stability and their own visions of the rule of law in Sudan.

A discussion of the melting relations of the common rock-forming oxides and the binary, ternary, quaternary, and quinary systems formed by them.

Camel meat has many benefits as a meat product. It has low fat content and is highly nutritious, and has potential to be used to combat hyperacidity, hypertension, pneumonia and respiratory disease. This book reviews up-to-date literature on camel meat and meat products, carcass and meat quality characteristics, muscle structure, post-mortem analysis and the nutritive value to humans. A comparatively small component of global meat consumption, camel meat has the potential to undergo an explosion of production worldwide, and currently farming for camel meat in Asia, Africa, Latin America and Australia is undergoing significant expansion. The potential of camel meat in helping to meet projected world food shortages, and being sustainably farmed, is also explored by the editors.

Industrial communications are a multidimensional, occasionally confusing, mixture of fieldbuses, software packages, and media. The intent of this book is to make it all accessible. When industrial controls communication is understood and then installed with forethought and care, network operation can be both beneficial and painless. To that end, the book is designed to speak to you, whether you're a beginner or interested newbie, the authors guide you through the bus route to communication success.

However, this is not a how-to manual. Rather, think of it as a primer laying the groundwork for controls communication design, providing information for the curious to explore and motivation for the dedicated to go further.

Provides information on accommodations, restaurants, nightlife, shopping, and attractions.

Bemaling af B-17 (Flyvende Fæstning) under 2. verdenskrig samt oversigt over eskadriller og fly-navne/-serier.

Lithium-Ion Batteries: Basics and Applications Springer

Vol. for 1947 includes "A list of clandestine periodicals of World War II, by Adrienne Florence Muzzy."

The handbook focuses on a complete outline of lithium-ion batteries. Just before starting with an exposition of the fundamentals of this system, the book gives a short explanation of the newest cell generation. The most important elements are described as negative / positive electrode materials, electrolytes, seals and separators. The battery disconnect unit and the battery management system are important parts of modern lithium-ion batteries. An economical, faultless and efficient battery production is a must today and is represented with one chapter in the handbook. Cross-cutting issues like electrical, chemical, functional safety are further topics. Last but not least standards and transportation themes are the final chapters of the handbook. The different topics of the handbook provide a good knowledge base not only for those working daily on electrochemical energy storage, but also to scientists, engineers and students concerned in modern battery systems.

This text covers the design of food processing equipment based on key unit operations, such as heating, cooling, and drying. In addition, mechanical processing operations such as separations, transport, storage, and packaging of food materials, as well as an introduction to food processes and food processing plants are discussed. Handbook of Food Processing Equipment is an essential reference for food engineers and food technologists working in the food process industries, as well as for designers of process plants. The book also serves as a basic reference for food process engineering students. The chapters cover engineering and economic issues for all important steps in food processing. This research is based on the physical properties of food, the analytical expressions of transport phenomena, and the description of typical equipment used in food processing. Illustrations that explain the structure and operation of industrial food processing equipment are presented. The materials of construction and fabrication of food processing equipment are covered here, as well as the selection of the appropriate equipment for various food processing operations. Mechanical processing equipment such as size reduction, size enlargement, homogenization, and mixing are discussed. Mechanical separations equipment such as filters, centrifuges, presses, and solids/air systems, plus equipment for industrial food processing such as heat transfer, evaporation, dehydration, refrigeration, freezing, thermal processing, and dehydration, are presented. Equipment for novel food processes such as high pressure processing, are discussed. The appendices include conversion of units, selected thermophysical properties, plant utilities, and an extensive list of manufacturers and suppliers of food equipment.

VHDL Answers to Frequently asked Questions is a follow-up to the author's book VHDL Coding Styles and Methodologies (ISBN 0-7923-9598-0). On completion of his first book, the author continued teaching VHDL and actively participated in the comp. lang. vhdl newsgroup. During his experiences, he was enlightened by the many interesting issues and questions relating to VHDL and synthesis. These pertained to: misinterpretations in the use of the language; methods for writing error free, and simulation efficient, code for testbench designs and for synthesis; and general principles and guidelines for design verification. As a result of this wealth of public knowledge contributed by a large VHDL community, the author decided to act as a facilitator of this information by collecting different classes of VHDL issues, and by elaborating on these topics through complete simulatable examples. This book is intended for those who are seeking an enhanced proficiency in VHDL. Its target audience includes: 1. Engineers. The book addresses a set of problems commonly experienced by real users of VHDL. It provides practical explanations to the questions, and suggests practical solutions to the raised issues. It also includes packages to achieve common utilities, useful in the generation of debug code and testbench designs. These packages include conversions to strings (the IMAGE package), generation of Linear Feedback Shift Registers (LFSR), Multiple Input Shift Register (MISR), and random number generators.

Bosch literature sets the standard for concise explanations of the function and engineering of automotive systems and components: from Fuel Injection, to Anti-lock Braking Systems, to Alarm Systems. These books are a great resource for anyone who wants quick access to advanced automotive engineering information. The vocational or technical school instructor faced with tough questions from inquiring students will find welcome answers in their pages. Advanced enthusiasts who want to understand what goes on under the skin of today's sophisticated automobiles will find the explanations they seek. And motivated technicians who want to cultivate a confident expertise will find the technical information they need. Both handbooks are fully stitched, case bound and covered with strong but flexible "shop-proof" vinyl for long life. Each of these exhaustive reference manuals includes application-specific material gathered from the engineers of leading European auto companies and other original equipment manufacturers, as well as input from leading authorities at universities throughout the world. Each book is edited by the same Bosch technical experts who

design and build the world's finest automotive and diesel systems and components. In every field there's a single, indispensable reference work that rises above the rest. In the automotive world that reference is the blue Automotive Handbook from Bosch. Now in its brand new 4th edition and expanded to over 840 pages. With more than 1,000 cut-away illustrations, diagrams, tables and sectional drawings, this definitive encyclopedia of automotive engineering information is both exhaustive and accessible, making even sophisticated automotive concepts easy to visualize and understand. The 4th edition includes an all-new, comprehensive section on Vehicle Dynamics Control (VDC), that covers traction control system design and operation. 19 other subject areas have been expanded and updated. Section headings in the new 4th edition include: -- Vehicle Dynamics Control (NEW!) -- Sensors -- Reliability -- Lighting -- Air supply -- Mathematics -- Navigation systems -- Braking equipment -- Power transmission -- Chassis -- Starting and ignition -- Comfort and safety -- General technical knowledge -- Motor-vehicle dynamics -- Vehicle bodies, passenger and commercial -- Symbols used in vehicle electrical systems -- Vehicle windows and window cleaning -- Heating and air conditioning -- Communication and information systems -- Vehicle hydraulics and pneumatics -- Environmental effects of vehicle equipment -- Actuators -- Quality -- Vehicle drives -- Fuel metering -- Physics -- Driver information -- Materials science -- Road-vehicle systems -- Alarm & signaling systems -- Engine exhaust gases -- Road traffic legislation

Make power deregulation work for you With deregulation, the vast pool of power customers is up for grabs. As a utility, are you ready to compete? As a customer, are you ready to choose? In Power Quality Primer, Barry Kennedy gives you specifically designed, ahead-of-the-curve methods. Utilities will learn how to: Plan successful competitive strategies for every aspect of the business Market proactive solutions to customers before needs arise Improve transmission and distribution system quality, efficiency, and power factor performance Eliminate technical problems such as over-voltages and poor grounding Design and deliver effective simulations Build customer-winning, customer-keeping quality, quality control, and service into all facets of your enterprise As a customer, you'll learn how to pick the utility that meets your power quality needs...solve your own power quality problems and find cost-effective solutions...and perform your own power quality survey

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