

Designing And Implementation Of Smmps Circuits

This book is part I of a two-volume work that contains the refereed proceedings of the International Conference on Life System Modeling and Simulation, LSMS 2010 and the International Conference on Intelligent Computing for Sustainable Energy and Environment, ICSEE 2010, held in Wuxi, China, in September 2010. The 194 revised full papers presented were carefully reviewed and selected from over 880 submissions and recommended for publication by Springer in two volumes of Lecture Notes in Computer Science (LNCS) and one volume of Lecture Notes in Bioinformatics (LNBI). This particular volume of Lecture Notes in Computer Science (LNCS) includes 55 papers covering 7 relevant topics. The 55 papers in this volume are organized in topical sections on intelligent modeling, monitoring, and control of complex nonlinear systems; autonomy-oriented computing and intelligent agents; advanced theory and methodology in fuzzy systems and soft computing; computational intelligence in utilization of clean and renewable energy resources; intelligent modeling, control and supervision for energy saving and pollution reduction; intelligent methods in developing vehicles, engines and equipments; computational methods and intelligence in modeling genetic and biochemical networks and regulation.

Teacher education is an evolving field with multiple pathways towards teacher certification. Due to an increasing emphasis on the benefits of field-based learning, teachers can now take alternative certification pathways to become teachers. The Handbook of Research on Field-Based Teacher Education is a pivotal reference source that combines field-based components with traditional programs, creating clinical experiences and "on-the-job" learning opportunities to further enrich teacher education. While highlighting topics such as certification design, preparation programs, and residency models, this publication explores theories of teaching and learning through collaborative efforts in pre-Kindergarten through grade 12 settings. This book is ideally designed for teacher education practitioners and researchers invested in the policies and practices of educational design.

This book is concerned with the development of human factors inputs to software design. The aim is to create products which match the requirements and characteristics of users and which offer usable user interfaces. The HUFIT project - Human Factors in Information Technology - was carried out within the European Strategic Programme for Research and Development in Information Technology (ESPRIT) with the objective of enhancing the quality of software design within the European Community. The variety of activities undertaken to achieve this goal are reflected in this book. It describes human factors knowledge and tools for integration in information technology supplier organisations.

Discover cutting-edge techniques for next-generation integrated circuit design, and learn how to deliver improved speed, density, power, and cost.

This comprehensive sourcebook thoroughly explores the state-of-the-art in communications receivers, providing detailed practical guidance for constructing an actual high dynamic range receiver from system design to packaging. You also find clear explanations of the technical underpinnings that you need to understand for your work in the field. This cutting-edge reference presents the latest information on modern superheterodyne receivers, dynamic range, mixers, oscillators, complex coherent synthesizers, automatic gain control, DSP and software radios. You find in-depth discussions on system design, including coverage of all pertinent data and tools. Moreover, the book offers you a solid understanding of packaging and mechanical considerations, as well as a look at tomorrow's receiver technology, including new Bragg-cell applications for ultra-wideband electronic warfare receivers. This one-stop resource is packed with over 300 illustrations that support critical topics throughout."

This book constitutes the refereed proceedings of the 9th European PVM/MPI Users' Group Meeting held in Linz, Austria in September/October 2002. The 50 revised full papers presented together with abstracts of 11 invited contributions were carefully reviewed and selected. The papers are organized in topical sections on Corss Grid, Par Sim, application using MPI and PVM, parallel algorithms using message passing, programming tools for MPI and PVM, implementations of MPI and PVM, extensions of MPI and PVM, and performance analysis and optimization.

This book constitutes the thoroughly refereed post-proceedings of the 4th International Conference on Parallel Processing and Applied Mathematics, PPAM 2002, held in Naleczow, Poland, in September 2001. The 101 papers presented were carefully reviewed and improved during two rounds of reviewing and revision. The book offers topical sections on distributed and grid architectures, scheduling and load balancing, performance analysis and prediction, parallel non-numerical algorithms, parallel programming, tools and environments, parallel numerical algorithms, applications, and evolutionary computing and neural networks.

With growing consumer demand for portability and miniaturization in electronics, design engineers must concentrate on many additional aspects in their core design. The plethora of components that must be considered requires that engineers have a concise understanding of each aspect of the design process in order to prevent bug-laden prototypes. Electronic Circuit Design allows engineers to understand the total design process and develop prototypes which require little to no debugging before release. It provides step-by-step instruction featuring modern components, such as analog and mixed signal blocks, in each chapter. The book details every aspect of the design process from conceptualization and specification to final implementation and release. The text also demonstrates how to utilize device data sheet information and associated application notes to design an electronic system. The hybrid nature of electronic system design poses a great challenge to engineers. This book equips electronics designers with the practical knowledge and tools needed to develop problem free prototypes that are ready for release.

The 2010 International Conference on Life System Modeling and Simulation (LSMS 2010) and the 2010 International Conference on Intelligent Computing for Sustainable Energy and Environment (ICSEE 2010) were formed to bring together researchers and practitioners in the fields of life system modeling/simulation and intelligent computing applied to worldwide sustainable energy and environmental applications. A life system is a broad concept, covering both micro and macro components ranging from cells, tissues and organs across to organisms and ecological niches. To comprehend and predict the complex behavior of even a simple life system can be extremely difficult using conventional approaches. To meet this challenge, a variety of new theories and methodologies have emerged in recent years on life system modeling and simulation. Along with improved understanding of the behavior of biological systems, novel intelligent computing paradigms and techniques have emerged to handle complicated real-world problems and applications. In particular, intelligent computing approaches have been valuable in the design and development of systems and facilities for achieving sustainable energy and a sustainable environment, the two most challenging issues currently facing humanity. The two LSMS 2010 and ICSEE 2010 conferences served as an important platform for synergizing these two research streams.

Although the last decade has witnessed significant advances in control theory for finite and infinite dimensional systems, the stability and control of time-delay systems have not been fully investigated. Many problems exist in this field that are still unresolved, and there is a tendency for the numerical methods available either to be too general or too specific to be applied accurately across a range of problems. This monograph brings together the latest trends and new results in this field, with the aim of presenting methods covering a large range of techniques. Particular emphasis is placed on methods that can be directly applied to specific problems. The resulting book is one that will be of value to both researchers and practitioners.

Switched Mode Power Supply (SMPS) is the most prevailing architecture for DC power supply in modern systems, primarily for its capability to handle variable loads. Apart from efficiency the size and weight of the power supplies is becoming a great area of concern for the Power Supply Designers. In this thesis an AC to DC converter SMPS circuit, having a power MOSFET for switching operation and a PWM based Feedback circuit for driving the switching of the MOSFET, is designed and simulated in NI MULTISIM circuit design environment. Further the same circuit is Hardware implemented and tested using NI ELVIS Suite. In this design the line voltage at 220V/50Hz is taken as input, this voltage is stepped down, rectified and passed through filter capacitor to give an unregulated DC voltage. This unregulated voltage is chopped using a MOSFET switch, driven by PWM feedback signal, to control the output voltage level. An Isolation Transformer is used to isolate the DC output from input supply. The transformer output is again rectified by the high frequency Diode bridge rectifier and is filtered using a capacitor to give the regulated DC output. A Voltage regulator is connected to give the precise voltage output. The feedback network generates a high frequency PWM signal to drive the MOSFET switch. The dc voltage at the output depends on the width of the switching pulse. The pulse width is varied with the changes in the DC output voltage level, this change in the pulse width cancels the output voltage change and the SMPS output remains constant irrespective of load variations.

A contemporary evaluation of switching power design methods with real world applications • Written by a leading author renowned in his field • Focuses on switching power supply design, manufacture and debugging • Switching power supplies have relevance for contemporary applications including mobile phone chargers, laptops and PCs • Based on the authors' successful "Switching Power Optimized Design 2nd Edition" (in Chinese) • Highly illustrated with design examples of real world applications

The purpose of this book is to provide engineers and researchers in both the wind power industry and energy research community with comprehensive, up-to-date, and advanced design techniques and practical approaches. The topics addressed in this book involve the major concerns in the wind power generation and wind turbine design.

Multimedia Database Systems: Design and Implementation Strategies is a compendium of the state-of-the-art research and development work pertaining to the problems and issues in the design and development of multimedia database systems. The chapters in the book are developed from presentations given at previous meetings of the International Workshop on Multi-Media Data Base Management Systems (IW-MMDBMS), and address the following issues: development of adequate multimedia database models, design of multimedia database query and retrieval languages, design of indexing and organization techniques, development of efficient and reliable storage models, development of efficient and dependable retrieval and delivery strategies, and development of flexible, adaptive, and reliable presentation techniques.

This millennium will see the increased use of parallel computing technologies at all levels of mainstream computing. Most computer hardware will use these technologies to achieve higher computing speeds, high speed access to very large distributed databases and greater flexibility through heterogeneous computing. These developments can be expected to result in the extended use of all types of parallel computers in virtually all areas of human endeavour. Compute-intensive problems in emerging areas such as financial modelling and multimedia systems, in addition to traditional application areas of parallel computing such as scientific computing and simulation, will stimulate the developments. Parallel computing as a field of scientific research and development will move from a niche concentrating on solving compute-intensive scientific and engineering problems to become one of the fundamental computing technologies. This book gives a retrospective view of what has been achieved in the parallel computing field during the past three decades, as well as a prospective view of expected future developments. Contents: Invited Papers Applications Algorithms System Software and Hardware Architecture Industrial Perspective Extended Abstracts Readership: Researchers in high-speed computing. Keywords: Computing Technologies; Algorithms; System Software; Hardware Architecture; High-Speed Computing

Comprehensively discusses significant projects in scalable computing in various research organizations around the world. This note highlights the unique economic characteristics and constraints facing small developing states. It provides operational guidance on Fund engagement with such countries, including on how small country size might influence the use of Fund facilities and instruments, program design, capacity building activities, and collaboration with other institutions and donors. The guidance note draws on the March 2013 Board papers on small states and the associated Executive Board discussion. The findings of the paper and implications for Fund engagement with small states were presented to small states

