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Efoc/lan 86 CRC Press Seit Erscheinen der 1. Auflage sind vor allem im Konvergenzbereich der Datentechnik und Telekommunikation neue Techniken entstanden und damit auch eine Vielzahl neuer Fachausdrücke. Die Durchdringung der Telekommunikationstechnik mit Datentechniken hat zugenommen. Um dem gerecht zu werden, wurde diese 2. Auflage erheblich erweitert: mit 159.000 Begriffen steht hiermit ein ausführlicher Wegweiser zur Verfügung, um sich im Gewirr der deutschen und englischen Fachtermini zurechtzufinden. Das lexikalische Konzept (Nennung des Fachgebiets für jeden Eintrag, Zusatzinformationen wie Kurzdefinitionen, Synonyme, Quasisynonyme, Gegensatzwörter, Ober- und Unterbegriffe) sowie

das tabellarische Layout wurden beibehalten und eine Maximierung der Übersetzungssicherheit und des Bedienungskomforts erreicht.

IC Master Selected Topics in Electronics Recent advances in physics, material sciences and technology have allowed the rise of new paradigms with bright prospects for digital electronics, going beyond the reach of Moore's law, which details the scaling limit of electronic devices in terms of size and power. This book presents original and innovative topics in the field of beyond CMOS electronics, ranging from steep slope devices and molecular electronics to spintronics, valleytronics, superconductivity and optical chips. Written by globally recognized leading research experts, each chapter of this book will provide an introductory overview of their topic and illustrate the state of the art and future challenges. Aimed not only at students and those new to this field, but also at well-experienced researchers, Beyond-CMOS provides extremely clear and exciting perspectives about the technology of tomorrow, and is thus an effective tool for understanding and developing new ideas, materials and architectures.

Energy Research Abstracts Springer Science & Business Media Algorithms for VLSI Physical Design Automation, Second Edition is a core reference text for graduate students

and CAD professionals. Based on the very successful First Edition, it provides a comprehensive treatment of the principles and algorithms of VLSI physical design, presenting the concepts and algorithms in an intuitive manner. Each chapter contains 3-4 algorithms that are discussed in detail. Additional algorithms are presented in a somewhat shorter format. References to advanced algorithms are presented at the end of each chapter. Algorithms for VLSI Physical Design Automation covers all aspects of physical design. In 1992, when the First Edition was published, the largest available microprocessor had one million transistors and was fabricated using three metal layers. Now we process with six metal layers, fabricating 15 million transistors on a chip. Designs are moving to the 500-700 MHz frequency goal. These stunning developments have significantly altered the VLSI field: over-the-cell routing and early floorplanning have come to occupy a central place in the physical design flow. This Second Edition introduces a realistic picture to the reader, exposing the concerns facing the VLSI industry, while maintaining the theoretical flavor of the First Edition. New material has been added to all chapters, new sections have been added to most chapters, and a few chapters have been completely rewritten. The textual material is supplemented and clarified by many helpful

figures. Audience: An invaluable reference for professionals in layout, design automation and physical design.
Digital Integrated Circuit Design The Electrochemical Society
The first book to deal with a broad spectrum of process and device design, and modeling issues related to semiconductor devices, bridging the gap between device modelling and process design using TCAD. Presents a comprehensive perspective of emerging fields and covers topics ranging from materials to fabrication, devices, modelling and applications. Aimed at research-and-development engineers and scientists involved in microelectronics technology and device design via Technology CAD, and TCAD engineers and developers.
Science Abstracts Springer Science & Business Media
iming, timing, timing! That is the main concern of a digital designer charged with designing a semiconductor chip. What is it, how is it T described, and how does one verify it? The design team of a large digital design may spend months architecting and iterating the design to achieve the required timing target. Besides functional verification, the t- ing closure is the major milestone which dictates when a chip can be - leased to the semiconductor foundry for fabrication. This book addresses the timing verification using static timing analysis for

nanometer designs. The book has originated from many years of our working in the area of timing verification for complex nanometer designs. We have come across many design engineers trying to learn the background and various aspects of static timing analysis. Unfortunately, there is no book currently ava- able that can be used by a working engineer to get acquainted with the - tails of static timing analysis. The chip designers lack a central reference for information on timing, that covers the basics to the advanced timing veri- cation procedures and techniques.

Wörterbuch der Elektronik, Datentechnik und Telekommunikation / Dictionary of Electronics, Computing and Telecommunications

John Wiley & Sons

The Interaction of Compilation Technology and Computer Architecture demonstrates the importance of integrating contemporary compilation technology with a supporting computer architecture to enhance system performance. The chapters in this book are written by individuals who are experts in their respective areas. Each chapter examines how best to exploit the interaction between the architecture and the compiler. The book explores three different aspects of this interaction. Chapters 2-6 examine the interaction of the compiler and the architecture at the instruction level on

uniprocessors with multiple function units and highly segmented pipelines. Chapters 7 and 8 examine compilation issues for multiprocessor systems. The last two chapters discuss how programming language features can influence the design of both uniprocessor and multiprocessor systems. The Interaction of Compilation Technology and Computer Architecture demonstrates the close coupling needed between the compiler and the architecture to achieve high performance, particularly in parallel machines.

Microelectronics Technology and Devices - SBMicro 2008

The Electrochemical Society

Frontiers in Electronics reports on the most recent developments and future trends in the electronics and photonics industry. The issues address CMOS, SOI and wide band gap semiconductor technology, terahertz technology, and bioelectronics, providing a unique interdisciplinary overview of the key emerging issues.This volume accurately reflects the recent research and development trends: from pure research to research and development; and its contributors are leading experts in microelectronics, nanoelectronics, and nanophotonics from academia, industry, and government agencies.

Proceedings Information Gatekeepers Inc

This practical, tool-independent guide to

designing digital circuits takes a unique, top-down approach, reflecting the nature of the design process in industry. Starting with architecture design, the book comprehensively explains the why and how of digital circuit design, using the physics designers need to know, and no more.
The Interaction of Compilation Technology and Computer Architecture IOS Press
VLSI DesignTechnical Reports Awareness Circular : TRAC.Index to IEEE PublicationsInterface Integrated CircuitsDigital Principles and Logic Design TechniquesLaxmi PublicationsScience AbstractsDiscontinued Integrated CircuitsMicroelectronics Technology and Devices - SBMicro 2008The Electrochemical Society
Algorithms - ESA '95 Laxmi Publications
The SBMicro symposium is a forum dedicated to fabrication and modeling of microsystems, integrated circuits and devices. The goal of the symposium is to bring together researchers in the areas of processing, materials, characterization, modeling and TCAD of integrated circuits, microsensors, microactuators and MEMS. This issue of ECS Transactions contains the papers presented at the 2008 conference.
Japanese Journal of Applied Physics Springer Science & Business Media
This Springer Handbook comprehensively covers the topic of semiconductor devices, embracing all aspects from theoretical

background to fabrication, modeling, and applications. Nearly 100 leading scientists from industry and academia were selected to write the handbook's chapters, which were conceived for professionals and practitioners, material scientists, physicists and electrical engineers working at universities, industrial R&D, and manufacturers. Starting from the description of the relevant technological aspects and fabrication steps, the handbook proceeds with a section fully devoted to the main conventional semiconductor devices like, e.g., bipolar transistors and MOS capacitors and transistors, used in the production of the standard integrated circuits, and the corresponding physical models. In the subsequent chapters, the scaling issues of the semiconductor-device technology are addressed, followed by the description of novel concept-based semiconductor devices. The last section illustrates the numerical simulation methods ranging from the fabrication processes to the device performances. Each chapter is self-contained, and refers to related topics treated in other chapters when necessary, so that the reader interested in a specific subject can easily identify a personal reading path through the vast contents of the handbook.

1991 International Symposium on VLSI Technology, Systems and Applications

Springer Nature

One dimensional electronic materials are expected to be key components owing to their potential applications in nanoscale electronics, optics, energy storage, and biology. Besides, compound semiconductors have been greatly developed as epitaxial growth crystal materials. Molecular beam and metalorganic vapor phase epitaxy approaches are representative techniques achieving 0D–2D quantum well, wire, and dot semiconductor III-V heterostructures with precise structural accuracy with atomic resolution. Based on the background of those epitaxial techniques, high-quality, single-crystalline III-V heterostructures have been achieved. III-V Nanowires have been proposed for the next generation of nanoscale optical and electrical devices such as nanowire light emitting diodes, lasers, photovoltaics, and transistors. Key issues for the realization of those devices involve the superior mobility and optical properties of III-V materials (i.e., nitride-, phosphide-, and arsenide-related heterostructure systems). Further, the developed epitaxial growth technique enables electronic carrier control through the formation of quantum structures and precise doping, which can be introduced into the nanowire system. The growth can extend the functions of the material systems through the introduction of elements with large miscibility gap, or, alternatively, by the formation of hybrid

heterostructures between semiconductors and another material systems. This book reviews recent progresses of such novel III-V semiconductor nanowires, covering a wide range of aspects from the epitaxial growth to the device applications. Prospects of such advanced 1D structures for nanoscience and nanotechnology are also discussed.

Frontiers in Electronics Springer-Verlag

This book consitutes the proceedings of the Third Annual European Symposium on Algorithms, ESA '95, held in Corfu, Greece in September 1995. The volume presents 42 full revised papers selected during a careful refereeing process from a total of 119 submissions; in addition, there is a prominent keynote address. This year, the scope has been further expanded to new areas of computational endeavour in science; the book covers many aspects of algorithms research and application ranging from combinatorial mathematics to hardware design.

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