

1. Record Nr.	UNISA996465962903316
Titolo	Integrated Circuit and System Design. Power and Timing Modeling, Optimization and Simulation [[electronic resource] ] : 18th International Workshop, PATMOS 2008, Lisbon, Portugal, September 10-12, 2008, Revised Selected Papers // edited by Lars Svensson, José Monteiro
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Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 5349
Classificazione	DAT 190f ELT 272f SS 4800
Disciplina	620/.004202825536
Soggetti	Logic design Microprocessors Computer architecture Electronic digital computers—Evaluation Computer arithmetic and logic units Computer storage devices Memory management (Computer science) Electronic circuits Logic Design Processor Architectures System Performance and Evaluation Arithmetic and Logic Structures Computer Memory Structure Electronic Circuits and Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Session 1: Low-Leakage and Subthreshold Circuits -- Subthreshold FIR Filter Architecture for Ultra Low Power Applications -- Reverse Vgs Static CMOS (RVGS-SCMOS); A New Technique for Dynamically Compensating the Process Variations in Sub-threshold Designs --

Improving the Power-Delay Performance in Subthreshold Source-Coupled Logic Circuits -- Design and Evaluation of Mixed 3T-4T FinFET Stacks for Leakage Reduction -- Session 2: Low-Power Methods and Models -- Temporal Discharge Current Driven Clustering for Improved Leakage Power Reduction in Row-Based Power-Gating -- Intelligate: Scalable Dynamic Invariant Learning for Power Reduction -- Analysis of Effects of Input Arrival Time Variations on On-Chip Bus Power Consumption -- Power-Aware Design via Micro-architectural Link to Implementation -- Untraditional Approach to Computer Energy Reduction -- Session 3: Arithmetic and Memories -- Mixed Radix-2 and High-Radix RNS Bases for Low-Power Multiplication -- Power Optimization of Parallel Multipliers in Systems with Variable Word-Length -- A Design Space Comparison of 6T and 8T SRAM Core-Cells -- Latched CMOS DRAM Sense Amplifier Yield Analysis and Optimization -- Session 4: Variability and Statistical Timing -- Understanding the Effect of Intradie Random Process Variations in Nanometer Domino Logic -- A Study on CMOS Time Uncertainty with Technology Scaling -- Static Timing Model Extraction for Combinational Circuits -- A New Bounding Technique for Handling Arbitrary Correlations in Path-Based SSTA -- Statistical Modeling and Analysis of Static Leakage and Dynamic Switching Power -- Session 5: Synchronization and Interconnect -- Logic Synthesis of Handshake Components Using Structural Clustering Techniques -- Fast Universal Synchronizers -- A Performance-Driven Multilevel Framework for the X-Based Full-Chip Router -- PMD: A Low-Power Code for Networks-on-Chip Based on Virtual Channels -- Session 6: Power Supplies and Switching Noise -- Near-Field Mapping System to Scan in Time Domain the Magnetic Emissions of Integrated Circuits -- A Comparison between Two Logic Synthesis Forms from Digital Switching Noise Viewpoint -- Generating Worst-Case Stimuli for Accurate Power Grid Analysis -- Monolithic Multi-mode DC-DC Converter with Gate Voltage Optimization -- Session 7: Low-Power Circuits; Reconfigurable Architectures -- Energy Efficiency of Power-Gating in Low-Power Clocked Storage Elements -- A New Dynamic Logic Circuit Design for an Effective Trade-Off between Noise-Immunity, Performance and Energy Dissipation -- Energy Efficient Elliptic Curve Processor -- Energy Efficient Coarse-Grain Reconfigurable Array for Accelerating Digital Signal Processing -- Power-Efficient Reconfiguration Control in Coarse-Grained Dynamically Reconfigurable Architectures -- Poster Session 1: Circuits and Methods -- Settling-Optimization-Based Design Approach for Three-Stage Nested-Miller Amplifiers -- Ultra Low Voltage High Speed Differential CMOS Inverter -- Differential Capacitance Analysis -- Automated Synchronous-to-Asynchronous Circuits Conversion: A Survey -- Novel Cross-Transition Elimination Technique Improving Delay and Power Consumption for On-Chip Buses -- Poster Session 2: Power and Delay Modeling -- Analytical High-Level Power Model for LUT-Based Components -- A Formal Approach for Estimating Embedded System Execution Time and Energy Consumption -- Power Dissipation Associated to Internal Effect Transitions in Static CMOS Gates -- Disjoint Region Partitioning for Probabilistic Switching Activity Estimation at Register Transfer Level -- Data Dependence of Delay Distribution for a Planar Bus -- Special Session: Power Optimizations Addressing Reconfigurable Architectures -- Towards Novel Approaches in Design Automation for FPGA Power Optimization -- Smart Enumeration: A Systematic Approach to Exhaustive Search -- An Efficient Approach for Managing Power Consumption Hotspots Distribution on 3D FPGAs -- Interconnect Power Analysis for a Coarse-Grained Reconfigurable Array Processor -- Keynotes (Abstracts) --

Integration of Power Management Units onto the SoC -- Model to Hardware Matching for nm Scale Technologies -- Power and Profit: Engineering in the Envelope.

Sommario/riassunto

This book constitutes the thoroughly refereed post-conference proceedings of 18th International Workshop on Power and Timing Modeling, Optimization and Simulation, PATMOS 2008, featuring Integrated Circuit and System Design, held in Lisbon, Portugal during September 10-12, 2008. The 31 revised full papers and 10 revised poster papers presented together with 3 invited talks and 4 papers from a special session on reconfigurable architectures were carefully reviewed and selected from numerous submissions. The papers are organized in topical sections on low-leakage and subthreshold circuits, low-power methods and models, arithmetic and memories, variability and statistical timing, synchronization and interconnect, power supplies and switching noise, low-power circuits; reconfigurable architectures, circuits and methods, power and delay modeling, as well as power optimizations addressing reconfigurable architectures.

2. Record Nr.

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Autore

Gavezzotti Angelo

Titolo

Molecular aggregation [[electronic resource] ] : structure analysis and molecular simulation of crystals and liquids // Angelo Gavezzotti

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Descrizione fisica

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Collana

IUCr Monographs on crystallography ; ; 19

Disciplina

548

Soggetti

Crystallography

Intermolecular forces - Computer simulation

Molecular dynamics - Computer simulation

Quantum chemistry - Computer simulation

Crystals

Liquids

Lingua di pubblicazione

Inglese

Formato

Materiale a stampa

Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	<p>Contents; PART I: FUNDAMENTALS; 1 The molecule: structure, size and shape; 1.1 Atoms and bonds; 1.2 Classification concepts in many particle systems; 1.3 Must a molecule have a size?; 1.4 Must a molecule have a shape?; 1.5 Historical portraits: a chemistry course in the early 1960's; 2 Molecular vibrations and molecular force fields; 2.1 Vibrational modes and force constants; 2.2 Molecular mechanics; 2.3 Evolution of molecular force fields; 2.4 Appendix: an example of coordinate transformation; 2.5 Historical portraits: Got a force constant?; 3 Quantum chemistry</p> <p>3.1 Some fundamentals of quantum mechanics 3.2 The hydrogen atom and atomic orbitals; 3.3 Spin; 3.4 Many-electron systems; 3.5 Molecular orbitals: The Fock and Roothaan equations; 3.6 Approximate quantum chemical methods: NDO and EHT; 3.7 Evolution of quantum chemical calculations: Beyond Hartree-Fock; 3.8 Dimerization energies and basis set superposition error; 3.9 Historical portraits: early experiences in quantum chemistry; 4 The physical nature and the computer simulation of the intermolecular potential; 4.1 Experimental facts and conceptual framework</p> <p>4.2 The representation of the molecular charge distribution and of the electric potential 4.3 Coulombic potential energy; 4.4 Polarization (electrostatic induction) energy; 4.5 Dispersion energy; 4.6 Pauli (exchange) repulsion energy; 4.7 Total energies versus partitioned energies; 4.8 Intermolecular hydrogen bonding; 4.9 Simulation methods; 4.10 Ad hoc or transferable? Force field fitting from ab initio calculations; 5 Crystal symmetry and X-ray diffraction; 5.1 A structural view of crystal symmetry: bottom-up crystallography; 5.2 Space group symmetry and its mathematical representation</p> <p>5.3 von Laue's idea, 1912 5.4 The structure factor; 5.5 Miller indices and Bragg's law; 5.6 The electron density in a crystal; 5.7 The atomic prejudice; 5.8 Structure and X-ray diffraction: Some examples; 5.9 Historical portraits: Training of a crystallographer in the 1960's; 6 Periodic systems: Crystal orbitals and lattice dynamics; 6.1 The mathematical description of crystal periodicity; 6.2 The electronic structure of solids; 6.3 Lattice dynamics and lattice vibrations; 7 Molecular structure and macroscopic properties: Calorimetry and thermodynamics; 7.1 Molecules and macroscopic bodies</p> <p>7.2 Energy 7.3 Heat capacity; 7.4 Entropy; 7.5 Free energy and chemical equilibrium; 7.6 Thermodynamic measurements; 7.7 Derivatives; 8 Correlation studies in organic solids; 8.1 The Cambridge Structural Database (CSD) of organic crystals; 8.2 Structure correlation; 8.3 Retrieval of molecular and crystal structures from the CSD; 8.4 The SubHeat database; 8.5 The geometrical categorization of intermolecular bonding; 8.6 Space analysis of molecular packing modes; 8.7 The calculation of intermolecular energies in crystals; 8.8 General-purpose force fields for organic crystals</p> <p>8.9 Accuracy and reproducibility</p>
Sommario/riassunto	<p>The book is divided in two parts, to supply first the basic elements of the language, with short but complete explanations of terms, methods and theories; and then to describe the present status of studies on the processes by which organic molecules aggregate to form observable bodies and to determine their physical and chemical properties. - ;This book is divided in two parts. Part I provides a brief but accurate summary of all the basic ideas, theories, methods, and conspicuous results of structure analysis and molecular modelling of the condensed</p>

