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Nota di contenuto	Sleep-Transistor Based Power-Gating Tradeoff Analyses -- Modelling and Analysis of Manufacturing Variability Effects from Process to Architectural Level -- Non-invasive Power Simulation at System-Level with SystemC -- A Standard Cell Optimization Method for Near-Threshold Voltage Operations -- An Extended Metastability Simulation

Method for Synchronizer Characterization -- Phase Space Based NBTI Model -- Fast Propagation of Hamming and Signal Distances for Register-Transfer Level Datapaths -- Noise Margin Based Library Optimization Considering Variability in Sub-threshold -- TCP Window Based DVFS for Low Power Network Controller SoC -- A Generic Architecture for Robust Asynchronous Communication Links -- Direct Statistical Simulation of Timing Properties in Sequential Circuits -- On-Chip NBTI and PBTI Tracking through an All-Digital Aging Monitor Architecture -- Two-Phase MOBILE Interconnection Schemes for Ultra-Grain Pipeline Applications -- Design of a 150 mV Supply, 2 MIPS, 90nm CMOS, Ultra-Low-Power Microprocessor -- Run-Time Measurement of Harvested Energy for Autarkic Sensor Operation -- Observability Conditions and Automatic Operand-Isolation in High-Throughput Asynchronous Pipelines -- Dynamic Power Management of a Computer with Self Power-Managed Components -- Case Studies of Logical Computation on Stochastic Bit Streams.

Sommario/riassunto

This book constitutes the refereed proceedings of the 22nd International Conference on Integrated Circuit and System Design, PATMOS 2012, held in Newcastle, UK Spain, in September 2012. The 25 revised full papers presented were carefully reviewed and selected from numerous submissions. The paper feature emerging challenges in methodologies and tools for the design of upcoming generations of integrated circuits and systems, including reconfigurable hardware such as FPGAs. The technical program focus on timing, performance and power consumption as well as architectural aspects with particular emphasis on modeling, design, characterization, analysis and optimization.