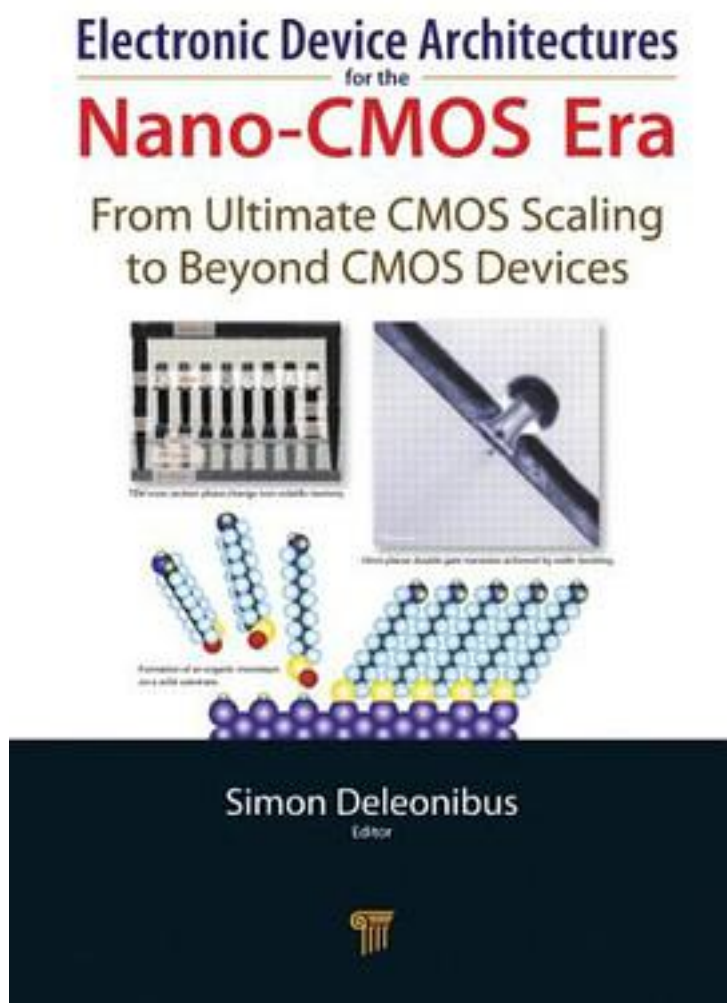


Electronic Devices Architectures for the NANO-CMOS Era



[Electronic Devices Architectures for the NANO-CMOS Era_下载链接1](#)

著者:Deleonibus, Simon 编

出版者:

出版时间:2009-2

装帧:

isbn:9789814241281

This book gives a state-of-the-art overview by internationally-recognized researchers of the electronic device architectures required for the NanoCMOS era and beyond. Challenges relevant to the scaling of CMOS Nanoelectronics are addressed through the different Core CMOS and Memory Devices options in the first part of the book. The second part reviews the New device Concepts for Nanoelectronics Beyond CMOS. What are the fundamental limits of core CMOS, and can we improve the scaling by the introduction of new materials or processes? Will the new architectures using SOI, multigates, or multichannels improve the trade-off between performance and power consumption and relax the constraints of new material integration? Can quantum computing replace binary-based protocols to enhance the information processing power? These questions and others are answered in this book.

Contents: CMOS Nanoelectronics. Reaching the End of the Roadmap: Core CMOS: Physical and Technological Limitations of NanoCMOS Devices to the End of the Roadmap and Beyond (S Deleonibus, O Faynot, B de Salvo, T Ernst, C Le Royer, T Poiroux & M Vinet); Advanced CMOS Devices on Bulk and SOI: Physics, Modeling and Characterization (T Poiroux & G Le Carval); Devices Structures and Carrier Transport Properties of Advanced CMOS using High Mobility Channels (S Takagi, T Tezuka, T Irisawa, S Nakaharai, T Numata, K Usuda, N Sugiyama, M Shichijo, R Nakane & S Sugahara); High-kappa Gate Dielectrics (H Wong, K Shiraishi, K Kakushima & H Iwai); Fabrication of Source and Drain Ultra Shallow Junction (B Mizuno); New Interconnect Schemes: End of Copper, Optical Interconnects? (S Laval, L Vivien, E Cassan, D Marris-Morini & J-M FÃ©dÃ©li); Memory Devices: Technologies and Key Design Issues for Memory Devices (K Kim & G Jeong); FeRAM and MRAM Technologies (Y Arimoto); Advanced Charge Storage Memories: From Silicon Nanocrystals to Molecular Devices (B De Salvo & G Molas); New Concepts for Nanoelectronics. New Paths Added to CMOS Beyond the End of the Roadmap: Single Electron Devices and Applications (J Gautier, X Jehl & M Sanquer); Electronic Properties of Organic Monolayers and Molecular Devices (D Vuillaume); Carbon Nanotube Electronics (V Derycke, A Filoramo & J-P Bourgoin); Spin Electronics (K-J Lee & S H Lim); The Longer Term: Quantum Information Processing and Communication (P Jorrand).

作者介绍:

目录:

Electronic Devices Architectures for the NANO-CMOS Era 下载链接1

标签

评论

[Electronic Devices Architectures for the NANO-CMOS Era 下载链接1](#)

书评

[Electronic Devices Architectures for the NANO-CMOS Era 下载链接1](#)