

1. Record Nr.	UNINA9910800049203321
Titolo	Handbook of nanophysics Nanoelectronics and nanophotonics // editor, Klaus D. Sattler
Pubbl/distr/stampa	Boca Raton : , : Taylor & Francis, , 2010
ISBN	0-429-19318-1 1-282-90235-0 9786612902352 1-4200-7551-9
Descrizione fisica	1 online resource (782 p.)
Collana	Handbook of Nanophysics
Altri autori (Persone)	SattlerKlaus D
Disciplina	620.5 621.381
Soggetti	Nanotechnology Nanostructures Nanoelectronics Nanophotonics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	A CRC title.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front cover; Contents; Preface; Acknowledgments; Editor; Contributors; Part I: Computing and Nanoelectronic Devices; Chapter 1: Quantum Computingin Spin Nanosystems; Chapter 2: Nanomemories UsingSelf-Organized Quantum Dots; Chapter 3: Carbon Nanotube Memory Elements; Chapter 4: Ferromagnetic Islands; Chapter 5: A Single Nano-Dot Embeddedin a Plate Capacitor; Chapter 6: Nanometer-SizedFerroelectric Capacitors; Chapter 7: Superconducting Weak LinksMade of Carbon Nanostructures; Chapter 8: Micromagnetic Modelingof Nanoscale Spin Valves; Chapter 9: Quantum Spin Tunneling inMolecular Nanomagnets Chapter 10: Inelastic Electron Transportthrough Molecular JunctionsChapter 11: Bridging Biomolecules with Nanoelectronics; Chapter 12: Transistor Structures for Nanoelectronics; Chapter 13: Metal Nanolayer-Base Transistor; Chapter 14: ZnO Nanowire Field-Effect Transistors; Chapter 15: C60 Field Effect Transistors; Chapter 16: The Cooper-Pair Transistor; Part III: Nanolithography; Chapter 17:

Multispacer Patterning: A Technology for the Nano Era; Chapter 18: Patterning and Ordering with Nanoimprint Lithography; Chapter 19: Nanoelectronics Lithography; Chapter 20: Extreme Ultraviolet Lithography
 Chapter 22: Optical Spectroscopy of Nanomaterials Chapter 23: Nanoscale Excitons and Semiconductor Quantum Dots; Chapter 24: Optical Properties of Metal Clusters and Nanoparticles; Chapter 25: Photoluminescence from Silicon Nanostructures; Chapter 26: Polarization-Sensitive Nanowire and Nanorod Optics; Chapter 27: Nonlinear Optics with Clusters; Chapter 28: Second-Harmonic Generation in Metal Nanostructures; Chapter 29: Nonlinear Optics in Semiconductor Nanostructures; Chapter 30: Light Scattering from Nanofibers; Chapter 31: Biomimetics: Photonic Nanostructures; Part V: Nanophotonic Devices
 Chapter 32: Photon Localization at the Nanoscale Chapter 33: Operations in Nanophotonics; Chapter 34: System Architectures for Nanophotonics; Chapter 35: Nanophotonics for Device Operation and Fabrication; Chapter 36: Nanophotonic Device Materials; Chapter 37: Waveguides for Nanophotonics; Chapter 38: Biomolecular Neuronet Devices; Part VI: Nanoscale Lasers; Chapter 39: Nanolasers; Chapter 40: Quantum Dot Laser; Chapter 41: Mode-Locked Quantum-Dot Lasers;
 Back cover

Sommario/riassunto

Many bottom-up and top-down techniques for nanomaterial and nanostructure generation have enabled the development of applications in nanoelectronics and nanophotonics. Handbook of Nanophysics: Nanoelectronics and Nanophotonics explores important recent applications of nanophysics in the areas of electronics and photonics. Each peer-reviewed chapter contains a broad-based introduction and enhances understanding of the state-of-the-art scientific content through fundamental equations and illustrations, some in color. This volume discusses how different nanomaterials, such as quantum dots and nan
