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ISBN	3-11-057550-7
Descrizione fisica	1 online resource (XVI, 390 p.)
Collana	De Gruyter Textbook
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Frontmatter -- Preface -- How to Use the Book -- Contents -- 1 Introduction -- 2 Solid-State Physics Foundation -- 3 Semiconductor Fabrication -- 4 Basic Ingredients for Nanoelectronics Devices -- 5 Metal–Oxide–Semiconductor Field-Effect Transistors -- 6 Device Simulation -- 7 Metal–Source–Drain Field-Effect Transistors -- 8 Carbon Nanotube Field-Effect Transistors -- 9 Steep Slope Transistors -- 10 Device Based on Two-Dimensional Materials -- A Color Map for 2D Materials -- Bibliography -- Index
Sommario/riassunto	The author presents all aspects, in theory and experiments, of nanoelectronic devices starting from field-effect transistors and leading to alternative device concepts such as Schottky-barrier MOSFETs and band-to-band tunnel FETs. Latest advances in Nanoelectronics, as ultralow power nanoscale devices and the realization of silicon MOS spin qubits, are discussed and finally a brief introduction into device simulations is given as well.