



Nanoelectronics: Quantum Engineering of Low-Dimensional Nanoensembles (Mixed media product)

By Vijay Kumar Arora

Taylor Francis Inc, United States, 2015. Mixed media product. Book Condition: New. 242 x 163 mm. Language: English . Brand New Book. Brings the Band Structure of Carbon-Based Devices into the Limelight A shift to carbon is positioning biology as a process of synthesis in mainstream engineering. Silicon is quickly being replaced with carbon-based electronics, devices are being reduced down to nanometer scale, and further potential applications are being considered. While traditionally, engineers are trained by way of physics, chemistry, and mathematics, Nanoelectronics: Quantum Engineering of Low-Dimensional Nanoensembles establishes biology as an essential basic science for engineers to explore. Unifies Science and Engineering: from Quantum Physics to Nanoengineering Drawing heavily on published papers by the author, this research-driven text offers a complete review of nanoelectronic transport starting from quantum waves, to ohmic and ballistic conduction, and saturation-limited extreme nonequilibrium conditions. In addition, it highlights a new paradigm using non-equilibrium Arora s Distribution Function (NEADF) and establishes this function as the starting point (from band theory to equilibrium to extreme nonequilibrium carrier statistics). The author focuses on nano-electronic device design and development, including carbon-based devices, and provides you with a vantage point for the global outlook on the future of nanoelectronics...



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