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Chapter 21: Biomolecule-Induced Nanoparticle AggregationChapter 22: Magnetic Nanoparticle Assemblies; Chapter 23: Embedded Nanoparticles; Chapter 24: Coupling in Metallic Nanoparticles: Approaches to Optical Nanoantennas; Chapter 25: Metal-Insulator Transition in Molecularly Linked Nanoparticle Films; Chapter 26: Tribology of Nanoparticles; Chapter 27: Plasmonic Nanoparticle Networks; Chapter 28: Stability of Nanodispersions; Chapter 29: Liquid Slip at the Molecular Scale; Chapter 30: Newtonian Nanofluids in Convection; Chapter 31: Theory of Thermal Conduction in Nanofluids Chapter 32: Thermophysical Properties of NanofluidsChapter 33: Heat Conduction in Nanofluids; Chapter 34: Nanofluids for Heat Transfer; Part V: Quantum Dots; Chapter 35: Core-Shell Quantum Dots; Chapter 36: Polymer-Coated Quantum Dots; Chapter 37: Kondo Effect in Quantum Dots; Chapter 38: Theory of Two-Electron Quantum Dots; Chapter 39: Thermodynamic Theory of Quantum Dots Self-Assembly; Chapter 40: Quantum Teleportation in Quantum Dots System; Index; Color Inserts; Back cover

Sommario/riassunto

In the 1990s, nanoparticles and quantum dots began to be used in optical, electronic, and biological applications. Now they are being studied for use in solid-state quantum computation, tumor imaging, and photovoltaics. Handbook of Nanophysics: Nanoparticles and Quantum Dots focuses on the fundamental physics of these nanoscale materials and structures. 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 provides an overview of the major c
