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Nota di contenuto	-- 1. Introductory Chapter: The Fame of Quantum Dots in Space-age Improvements for Multifunctional Application -- 2. Quantum Dots as Material for Efficient Energy Harvesting -- 3. Application of Fluorescent CQDs for Enhancing the Performance of Solar Cells and WLEDs -- 4. Quantum Dots Sensitized Solar Cell -- 5. Solar Energy -- 6. Application of Quantum Dots in Bio-Sensing, Bio-Imaging, Drug Delivery, Anti-Bacterial Activity, Photo-Thermal, Photo-Dynamic Therapy, and Optoelectronic Devices 80 -- 7. Recent Advances in Quantum Dots-Based Biosensors -- 8. Application of Quantum Dots in Lateral Flow Immunoassays: Non-Communicable and Communicable Diseases -- 9. Quantum Dots in Cancer Cell Imaging -- 10. Applications of Quantum Dots in the Food Industry -- 11. Quantum Dot Scattering in Monolayer Molybdenum Disulfide -- 12. Determination of Qubit Entanglement in One-step Double Photoionization of Helium Atom -- 13. Pharmacodynamic Implications of Transcranial Photobiomodulation and Quantum Physics in Clinical Medicine -- 14. Virtual Reality in Stereometry Training.
Sommario/riassunto	This book provides a detailed overview of recent advances in the captivating world of quantum dots and outlines some possible imminent new directions for this important field. A variety of advanced techniques is rapidly developing in the application of quantum dots to solar photovoltaics, LEDs, quantum computing (qubits) and different biological spheres. The book presents, discusses and compares devices

based on state-of-the-art structures, incipient material and new physical effects. Improved efficiency and reliability in these fields are already pointing the way to next-generation devices, especially in the nano regime. This book is addressed to students and scientists working in the field of quantum dots and progressive technologies.