Introductory Quantum Mechanics for Applied Nanotechnology

Description: This textbook covers fundamental quantum mechanics from an application's perspective, considering optoelectronic devices, biological sensors and molecular imagers as well as solar cells and various kinds of field effect transistors, e.g. nanowire and spin FETs.

The book provides a brief review of classical and statistical mechanics and electromagnetism, and then turns to the quantum treatment of atoms, molecules, and chemical bonds and the topics covered are focused on the multidisciplinary application of nanotechnology.

Aiming at senior undergraduate and graduate students in nanotechnology related areas like physics, materials science, and engineering, the book can be used in dedicated courses at universities and for focused training courses for practitioners, e.g., in the semiconductor industry and related nanotechnology companies.

The author is Professor Dae Mann Kim from the Korea Institute for Advanced Study who has been teaching Quantum Mechanics to engineering, material science and physics students for over 30 years in USA and Asia.

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