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Nota di contenuto	INTRODUCTION TO NANOMATERIALS AND DEVICES; CONTENTS; Preface; Fundamental Constants; 1 Growth of Bulk, Thin Films, and Nanomaterials; 1.1 Introduction; 1.2 Growth of Bulk Semiconductors; 1.2.1 Liquid-Encapsulated Czochralski (LEC) Method; 1.2.2 Horizontal Bridgman Method; 1.2.3 Float-Zone Growth Method; 1.2.4 Lely Growth Method; 1.3 Growth of Semiconductor Thin Films; 1.3.1 Liquid-Phase Epitaxy Method; 1.3.2 Vapor-Phase Epitaxy Method; 1.3.3 Hydride Vapor-Phase Epitaxial Growth of Thick GaN Layers; 1.3.4 Pulsed Laser Deposition Technique; 1.3.5 Molecular Beam Epitaxy Growth Technique 1.4 Fabrication and Growth of Semiconductor Nanomaterials 1.4.1 Nucleation; 1.4.2 Fabrications of Quantum Dots; 1.4.3 Epitaxial Growth of Self-Assembly Quantum Dots; 1.5 Colloidal Growth of Nanocrystals; 1.6 Summary; Problems; Bibliography; 2 Application of Quantum Mechanics to Nanomaterial Structures; 2.1 Introduction; 2.2 The de Broglie Relation; 2.3 Wave Functions and Schrodinger Equation; 2.4

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4.6 The Optical Absorption Coefficient of the Interband Transition in Type II Superlattices

Sommario/riassunto

"This book introduces the basic concepts of nanomaterials and devices fabricated from these nanomaterials. Explicates cutting-edge topics and concepts in the field, such as plasmon-photon interaction and coupling of photonic crystals to devices with the purpose of enhancing the device performance. Provides a thorough background in quantum mechanics/physics. Successfully details the interrelationship between quantum mechanics and nanomaterials"--
