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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	pt. I. Influence of quantum confinement on the effective electron mass (EEM) in non-parabolic semiconductors -- pt. II. Influence of light waves on the EEM in optoelectronic semiconductors -- pt. III. Influence of intense electric field on the EEM in optoelectronic semiconductors.
Sommario/riassunto	This book deals with the Effective Electron Mass (EEM) in low dimensional semiconductors. The materials considered are quantum confined non-linear optical, III-V, II-VI, GaP, Ge, PtSb ₂ , zero-gap, stressed, Bismuth, carbon nanotubes, GaSb, IV-VI, Te, II-V, Bi ₂ Te ₃ , Sb, III-V, II-VI, IV-VI semiconductors and quantized III-V, II-VI, IV-VI and HgTe/CdTe superlattices with graded interfaces and effective mass superlattices. The presence of intense electric field and the light waves change the band structure of optoelectronic semiconductors in fundamental ways, which have also been incorporated in the study of the EEM in quantized structures of optoelectronic compounds that control the studies of the quantum effect devices under strong fields. The importance of measurement of band gap in optoelectronic materials under strong electric field and external photo excitation has also been discussed in this context. The influence of crossed electric and quantizing magnetic fields on the EEM and the EEM in heavily doped semiconductors and their nanostructures is discussed. This

book contains 200 open research problems which form the integral part of the text and are useful for both Ph. D aspirants and researchers in the fields of solid-state sciences, materials science, nanoscience and technology and allied fields in addition to the graduate courses in modern semiconductor nanostructures. The book is written for post graduate students, researchers and engineers, professionals in the fields of solid state sciences, materials science, nanoscience and technology, nanostructured materials and condensed matter physics.
