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Nota di contenuto	Front Cover; Contents; Preface; Introduction; Chapter 1: Chiral Fermions in Graphene; Chapter 2: Intrinsic Coherence of Graphene; Chapter 3: Quantized States in Graphene Ribbons; Chapter 4: Phonons and Raman Scattering in Graphene; Chapter 5: Electron Scattering on Atomic Defects and Phonons in Graphene; Chapter 6: Many-Body Effects and Excitations in Graphene; Chapter 7: Andreev Reflection at the Graphene/Metal Interface; Chapter 8: Nonequilibrium Effects in Graphene Devices; Chapter 9: Graphene Thermoelectric Nanocoolers and Electricity Cogenerators Chapter 10: Sensing of ElectromagneticWaves with Graphene and Carbon Nanotube Quantum Dots Chapter 11: Other Atomic Monolayers; Problems and Hints; Back Cover
Sommario/riassunto	Graphene is the first example of two-dimensional materials and is the most important growth area of contemporary research. It forms the basis for new nanoelectronic applications. Graphene, which comprises field-effect structures, has remarkable physical properties. This book focuses on practical applications determined by the unique properties of graphene. Basic concepts are elucidated by end-of-chapter problems, the answers to which are provided in the accompanying solutions manual. The mechanisms of electric and thermal transport in the gated graphene, interface phenomena, quantum dots, non-e

