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Sommario/riassunto	This book presents comprehensive reviews on the synthesis, characterization, properties, and applications of advanced semiconducting materials. It explores modern inorganic, organic, and hybrid semiconductors, and semiconductor physics through density functional theory. Topics include morphology-dependent properties in inorganic semiconductors, and methods for tuning the electron transport properties of nanotube semiconductors. Readers will also find discussions on earth-abundant and environmentally friendly chalcogenide nanomaterials for photovoltaics, the use of chalcogenides and oxide semiconductors in photoelectrochemical reactions, and insights into defect formation during ion implantation in diamond and c-BN thin films. A thermomechanical response model for photothermal diffusion waves in rotating magnetized semiconductors is also presented. This book provides readers with a solid foundation in recent developments and current technologies for producing and characterizing semiconductors, as well as theoretical and

computational tools.