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Nota di contenuto	Chapter 1. Discovering the electron. From Dalton to Bohr, evolving theories and models -- Chapter 2. The quantum nature of the electron -- Chapter 3. Knowledge is the son of experience. From theory to experiments -- Chapter 4. The mystery of the constants -- Chapter 5. A dual and quantum nature -- Chapter 6. From the single electron to spin -- Chapter 7. Strange Relatives, Positrons, Muons and Tau -- Chapter 8. Virtual particles, quasiparticles and quantum fields.
Sommario/riassunto	This book offers an in-depth exploration of one of the fundamental particles that has shaped our understanding of the physical world and revolutionized technology, combining historical narrative with rigorous scientific analysis to provide a comprehensive account of the electron. Starting from the early atomic models of Democritus and Dalton, the book traces the journey through key experiments such as J.J. Thomson's discovery of the electron, Rutherford's model, and Bohr's

contributions. It discusses how these foundational experiments and theories have paved the way for modern quantum mechanics. Each chapter looks at significant milestones, from the photoelectric effect and the discovery of electron spin to quantum tunneling and entanglement. The book also addresses the electron's strange properties and its relatives, such as positrons, muons, and tau particles, providing a detailed examination of their roles in the broader context of quantum field theory. The author draws from original sources to ensure accuracy and authenticity, making this work a reliable reference for students and enthusiasts alike. The text is written in accessible language, carefully explaining complex concepts without overwhelming the reader with intricate mathematical formulations. With many illustrative figures, "What is an Electron?" serves as an essential resource for undergraduate students in physics, chemistry, and materials science, as well as for scientifically-curious readers eager to understand the profound implications of electron behavior in quantum mechanics and modern technology.
