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Nota di contenuto	Chapter 1. The fundamental concepts of quantum mechanics -- Chapter 2. Quantum systems in finite-dimensional Hilbert spaces 35 -- Chapter 3. A particle in one dimension -- Chapter 4. A particle in three dimensions -- Chapter 5. Spin and angular momentum composition -- Chapter 6. Approximation methods -- Appendix A: Dirac delta: definition and properties -- Appendix B: Levi-Civita tensor: definition and properties -- Appendix C: Euler range: definition and properties.
Sommario/riassunto	This book is based on the course "Elements of Theoretical Physics," which the author has been teaching at the University of Rome Tor Vergata since 2017. It serves as an introduction to quantum mechanics, providing students with essential concepts and tools for future lessons, while still maintaining a comprehensive approach without relying heavily on the level of abstraction and mathematical rigor typically found in Physics programs. Understanding this book only requires knowledge of the mathematical concepts taught in the first two years of basic courses. The bachelor's degree program in Materials Science aims

to train students with an interdisciplinary background in physics, chemistry, and engineering. While the study of quantum mechanics is essential, the same level of depth, abstraction, and mathematical rigor as in a Physics degree program is not a requirement. Unfortunately, most textbooks on Quantum Mechanics are geared toward Physics students, making it difficult to find suitable resources for Materials Science students. To make learning easier, the author has chosen not to refer students to various textbooks for different topics. Instead, he has created handouts that have evolved into a condensed textbook on quantum mechanics specifically tailored to the needs of the Materials Science program.

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