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Sommario/riassunto

Quantum mechanics is the most successful theory for describing the microworld of photons, atoms, and their aggregates. It is behind much of the successes of modern technology. It has deep philosophical implications to the fundamental nature of material reality. A few decades ago, it was also realized that it is connected to the computer science and information theory. With this understanding were born the new disciplines of quantum computing and quantum communication. The current book introduces the very exciting area of quantum communication, which lies at the intersection of quantum mechanics, information theory, and atomic physics. The relevant concepts of these disciplines are explained, and their implication for the task of unbreakably secure communication is elucidated. The mathematical formulation of various approaches has been explained. An attempt has been made to keep the exposition self-contained. A senior undergraduate with good mathematics and physics background should be able to follow the current thinking about these issues after understanding the material presented in this book.
