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Nota di contenuto	Bound States in Low-Dimensional Systems -- Transmission and Conductance in Tubes -- Waveguide Measurements of the Properties of Curved Tubes -- Binding and Transmission in Wires and Waveguides -- Two-Dimensional Systems with Finite Periodic Structure -- Localized Modes in Photonic Crystals -- Epilogue -- Comparison of Various Approximate Quantum Wells -- Conducting Sphere on a Grounded Surface.
Sommario/riassunto	This monograph is accessible to anyone with an undergraduate background in quantum mechanics, electromagnetism and some solid state physics. It describes in detail the properties of particles and fields in quasi-two-dimensional systems used to approximate realistic quantum heterostructures. Here the authors treat wires, i.e. they assume an infinite hard-wall potential for the system. They discuss bound states, the properties of transmission and reflection, conductance, etc. It is shown that the simple models developed in this book in detail are capable of understanding even complex physical phenomena. The methods are applied to optical states in photonic crystals, and similarities and differences between those and electronic states in quantum heterostructures and electromagnetic fields in waveguides are discussed.