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Sommario/riassunto

This book introduces researchers and students to the physical principles which govern the operation of solid-state devices whose overall length is smaller than the electron mean free path. In quantum systems such as these, electron wave behavior prevails, and transport properties must be assessed by calculating transmission amplitudes rather than microscopic conductivity. Emphasis is placed on detailing the physical laws that apply under these circumstances, and on giving a clear account of the most important phenomena. The coverage is comprehensive, with mathematics and theoretical material s