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Sommario/riassunto	Given the extensive application of random walks in virtually every science related discipline, we may be at the threshold of yet another problem solving paradigm with the advent of quantum walks. Over the past decade, quantum walks have been explored for their non-intuitive dynamics, which may hold the key to radically new quantum algorithms. This growing interest has been paralleled by a urry of research into how one can implement quantum walks in laboratories. This book presents numerous proposals as well as actual experiments for such a physical realization, underpinned by a wide range of quantum, classical and hybrid technologies.