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Autore	BACCI, Antonio <1885-1971>
Titolo	Varia latinitatis scripta / Antonii Bacci
Pubbl/distr/stampa	Città del Vaticano, : Typis polyglottis Vaticanis, 1944
Descrizione fisica	471 p. ; 21 cm
Disciplina	472
Soggetti	Lingua latina - Lessico
Collocazione	V.3.A. 295(VIII C 688) XV.22.B. 37
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Formato	Materiale a stampa
Livello bibliografico	Monografia
2. Record Nr.	UNINA9910739449703321
Autore	Portugal Renato
Titolo	Quantum Walks and Search Algorithms / / by Renato Portugal
Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Springer, , 2013
ISBN	1-4614-6336-X
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (227 p.)
Collana	Quantum Science and Technology, , 2364-9054
Disciplina	530.120151
Soggetti	Quantum theory Quantum computers Computers Spintronics Quantum Physics Quantum Computing Theory of Computation Quantum Information Technology, Spintronics
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Livello bibliografico**Note generali****Nota di bibliografia****Nota di contenuto****Sommario/riassunto****Monografia**

Description based upon print version of record.

Includes bibliographic references (pages [215]-218) and index.

Introduction -- The Postulates of Quantum Mechanics -- Introduction to Quantum Walks -- Grover's Algorithm and its Generalization -- Quantum Walks on Infinite Graphs -- Quantum Walks on Finite Graphs -- Limiting Distribution and Mixing Time -- Spatial Algorithms -- Hitting Time -- Appendix: Linear Algebra for Quantum Computation.

This book addresses an interesting area of quantum computation called quantum walks, which play an important role in building quantum algorithms, in particular search algorithms. Quantum walks are the quantum analogue of classical random walks. It is known that quantum computers have great power for searching unsorted databases. This power extends to many kinds of searches, particularly to the problem of finding a specific location in a spatial layout, which can be modeled by a graph. The goal is to find a specific node knowing that the particle uses the edges to jump from one node to the next. This book is self-contained with main topics that include: Grover's algorithm, describing its geometrical interpretation and evolution by means of the spectral decomposition of the evolution operator Analytical solutions of quantum walks on important graphs like line, cycles, two-dimensional lattices, and hypercubes using Fourier transforms Quantum walks on generic graphs, describing methods to calculate the limiting distribution and mixing time Spatial search algorithms, with emphasis on the abstract search algorithm (the two-dimensional lattice is used as an example) Szegedy's quantum-walk model and a natural definition of quantum hitting time (the complete graph is used as an example) The reader will benefit from the pedagogical aspects of the book, learning faster and with more ease than would be possible from the primary research literature. Exercises and references further deepen the reader's understanding, and guidelines for the use of computer programs to simulate the evolution of quantum walks are also provided.