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Autore	Orcutt, William Dana
Titolo	The Spell / by William Dana Orcutt
Pubbl/distr/stampa	Bologna : Società Generale della Messagerie Italiane, [s. d.] London ; New York : Harper & Brothers, [s. d.]
Descrizione fisica	351 p., [30] c. di tav. ; 19 cm.
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2. Record Nr.	UNINA9910784341003321
Autore	Le Bellac Michel
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Nota di bibliografia

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Nota di contenuto

Cover; Half-title; Title; Copyright; Contents; Foreword; Preface; 1 Introduction; 2 What is a qubit?; 3 Manipulating qubits; 4 Quantum correlations; 5 Introduction to quantum computing; 6 Physical realizations; 7 Quantum information; References; Index

Sommario/riassunto

Quantum information and computation is a rapidly expanding and cross-disciplinary subject. This book, first published in 2006, gives a self-contained introduction to the field for physicists, mathematicians and computer scientists who want to know more about this exciting subject. After a step-by-step introduction to the quantum bit (qubit) and its main properties, the author presents the necessary background in quantum mechanics. The core of the subject, quantum computation, is illustrated by a detailed treatment of three quantum algorithms: Deutsch, Grover and Shor. The final chapters are devoted to the physical implementation of quantum computers, including the most recent aspects, such as superconducting qubits and quantum dots, and to a short account of quantum information. Written at a level suitable for undergraduates in physical sciences, no previous knowledge of quantum mechanics is assumed, and only elementary notions of physics are required. The book includes many short exercises, with solutions available to instructors through solutions@cambridge.org.