

<<A Short Introduction>>

图书基本信息

书名：<<A Short Introduction to Quantum Information and Quantum Computation 量子信息与量子计算导论>>

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### 内容概要

Quantum information and computation is a rapidly expanding and cross-disciplinary subject. This book 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](mailto:solutions@cambridge.org).

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