1.	Record Nr.	UNINA9910484460803321
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	Titolo	Concise Guide to Quantum Computing : Algorithms, Exercises, and Implementations / / by Sergei Kurgalin, Sergei Borzunov
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
	ISBN	3-030-65052-9
	Edizione	[1st ed. 2021.]
	Descrizione fisica	1 online resource (129 pages) : illustrations
	Collana	Texts in Computer Science, , 1868-095X
	Disciplina	006.3843
	Soggetti	Computer science
		Computer science - Mathematics
		Quantum computers
		Theory of Computation
		Mathematics of Computing
		Quantum Computing
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Includes index.
	Nota di contenuto	1. The Quantum Computation Model -- 2. Pauli Matrices and Dirac Matrices -- 3. Basic Qubit Operations -- 4. Entangled States -- 5. Quantum Teleportation -- 6. Universal Elements for Quantum Circuits -- 7. Implementing Boolean Functions -- 8. Quantum Fourier Transform -- 9. Phase Estimation Algorithm -- 10. Outlook of Quantum Computing.
	Sommario/riassunto	This textbook is intended for practical, laboratory sessions associated with the course of quantum computing and quantum algorithms, as well as for self-study. It contains basic theoretical concepts and methods for solving basic types of problems and gives an overview of basic qubit operations, entangled states, quantum circuits, implementing functions, quantum Fourier transform, phase estimation, etc. The book serves as a basis for the application of new information technologies in education and corporate technical training: theoretical material and examples of practical problems, as well as exercises with, in most cases, detailed solutions, have relation to information technologies. A large number of detailed examples serve to better

develop professional competencies in computer science. Dr. Sergei Kurgalin is Professor and Head of the Department of Digital Technologies at Voronezh State University, Russia. Dr. Sergei Borzunov is Associate Professor at the same institution.