1. Record Nr.   UNINA9910219650603321

   Titolo   Virginia economic journal

   Pubbl/distr/stampa Ashland, Va., : Virginia Association of Economists, ©1996-

   Descrizione fisica 1 online resource

   Disciplina   330/.05

   Soggetti   Economics
                       Economics - Study and teaching
                       Economic history
                       Volkswirtschaft
                       Wirtschaftspolitik
                       Virginia
                       Wirtschaftswissenschaft
                       Theorie
                       Periodicals.
                       Virginia Economic conditions Periodicals
                       Virginia

   Lingua di pubblicazione   Inglese

   Formato   Materiale a stampa

   Livello bibliografico   Periodico

2. Record Nr.	UNINA9910254583303321
Titolo	Quantum Simulations with Photons and Polaritons : Merging Quantum Optics with Condensed Matter Physics / / edited by Dimitris G. Angelakis
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-52025-3
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XIII, 214 p. 86 illus., 77 illus. in color.)
Collana	Quantum Science and Technology, , 2364-9054
Disciplina	530
Soggetti	Quantum theory
	Quantum optics
	Quantum computers
	Spintronics
	Superconductivity
	Superconductors
	Phase transformations (Statistical physics)
	Condensed matter
	Quantum Physics
	Quantum Optics
	Quantum Information Technology, Spintronics
	Strongly Correlated Systems, Superconductivity
	Quantum Gases and Condensates
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction; Dimitris G. Angelakis -- 1 Strongly correlated polaritons in nonlinear cavity arrays; Andrea Tomadin, Davide Rossini, Rosario Fazio -- 2 Phase diagram and excitations of the Jaynes-Cummings-Hubbard model; Sebastian Schmidt and Gianni Blatter -- 3 Out-of-equilibrium physics in driven dissipative photonic resonator arrays; Changsuk Noh, Stephen R. Clark, Dieter Jaksch, Dimitris G. Angelakis -- 4 Topological physics with photons; Mohammad Hafezi and Jacob Taylor -- 5 Exciton-Polariton Quantum Simulators; Na Young Kim and

Yoshihisa Yamamoto -- 6 Strongly correlated photons in quantum photonic platforms; D. Gerace, C. Ciuti and I. Carusotto -- 7 Quantum simulations with circuit quantum electrodynamics; Guillermo Romero, Enrique Solano, and Lucas Lamata -- 8 Dirac Dynamics in Waveguide Arrays: From Zitterbewegung to Photonic Topological Insulators; F. Dreisow, M. C. Rechtsman, J. M. Zeuner, Y. Plotnik, R. Keil, S. Nolte, M. Segev, and A. Szameit -- Glossary.

Sommario/riassunto	This book reviews progress towards quantum simulators based on photonic and hybrid light-matter systems, covering theoretical proposals and recent experimental work. Quantum simulators are specially designed quantum computers. Their main aim is to simulate and understand complex and inaccessible quantum many-body phenomena found or predicted in condensed matter physics, materials science and exotic quantum field theories. Applications will include the engineering of smart materials, robust optical or electronic circuits, deciphering quantum chemistry and even the design of drugs. Technological developments in the fields of interfacing light and matter, especially in many-body quantum optics, have motivated recent proposals for quantum simulators based on strongly correlated photons and polaritons generated in hybrid light-matter systems. The latter have complementary strengths to cold atom and ion based simulators and they can probe for example out of equilibrium phenomena in a natural driven-dissipative setting. This book covers some of the most important works in this area reviewing the proposal for Mott transitions and Luttinger liquid physics with light, to simulating interacting relativistic theories, topological insulators and gauge field physics. The stage of the field now is at a point where on top of the numerous theory proposals; experiments are also reported. Connecting to the theory proposals presented in the chapters, the main experimental quantum technology platforms developed from groups worldwide to realize photonic and polaritonic simulators in the laboratory are also discussed. These include coupled microwave resonator arrays in superconducting circuits, semiconductor based polariton systems, and integrated quantum photonic chips. This is the first book dedicated to photonic approaches to quantum simulation, reviewing the fundamentals for the researcher new to the field, and providing a complete reference for the graduate student starting or already undergoing PhD studies in this area.