

1. Record Nr.	UNINA9910552731303321
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Titolo	Quantum Network with Multiple Cold Atomic Ensembles / / by Bo Jing
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2022
ISBN	9789811903281 9789811903274
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (197 pages)
Collana	Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5061
Disciplina	621.382
Soggetti	Quantum communication Atoms Molecules Quantum entanglement Quantum theory Quantum optics Quantum Communications and Cryptography Atomic, Molecular and Chemical Physics Quantum Correlation and Entanglement Quantum Measurement and Metrology Quantum Optics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Doctoral thesis accepted by University of Science and Technology of China, Hefei, China."--Title page.
Nota di contenuto	Introduction -- Interaction between Single Photons and Atomic Ensembles -- Preparation of Cold Atomic Ensembles -- Highly Retrievable Quantum Memories.
Sommario/riassunto	This book highlights the novel research in quantum memory networking, especially quantum memories based on cold atomic ensembles. After discussing the frontiers of quantum networking research and building a DLCZ-type quantum memory with cold atomic ensemble, the author develops the ring cavity enhanced quantum memory and demonstrates a filter-free quantum memory, which significantly improves the photon-atom entanglement. The author then

realizes for the first time the GHZ-type entanglement of three separate quantum memories, a building block of 2D quantum repeaters and quantum networks. The author also combines quantum memories and time-resolved measurements, and reports the first multiple interference of three single photons with different colors. The book is of good reference value for graduate students, researchers, and technical personnel in quantum information sciences.
