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Nota di contenuto	1. Introduction -- 2 Principle of cold atom-based quantum memories -- 3. Quantum memory with high efficiencies -- 4. Quantum frequency conversion -- 5. Remote entanglement by two-photon interference -- 6. Remote entanglement by single-photon interference -- Measurement-device-independent verification of a quantum memory -- 8. Improvements of cold atom-based quantum memories -- 9. Conclusion and outlook. .
Sommario/riassunto	This book highlights novel research work done on cold atom-based quantum networks. Given that one of the main challenges in building the quantum network is the limited entanglement distribution distance, this book presents some state-of-the-art experiments in tackling this challenge and, for the first time, establishes entanglement between quantum memories via metropolitan-scale fiber transmission. This achievement is accomplished by cooperating high-efficiency cold quantum memories, low-loss quantum frequency conversion modules,

and long-fiber phase-locking techniques. In the book, the scheme design, experimental setup, data analyses, and numerous technical details are given. Therefore, it suits a broad readership that includes all students, researchers, and technicians who work in quantum information sciences.

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