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Abstract for an Invited Paper
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Quantum memories for telecom networks

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Quantum mechanics provides a mechanism for absolutely secure communication between remote parties for distances greater than 100 kilometers direct quantum communication via optical fiber is not viable, due to fiber losses, and intermediate storage of quantum information along the transmission channel is necessary, leading to the concept of the quantum repeater. I will outline our program on the use of long-lived atomic memories as an interface for telecom quantum networks. Work done in collaboration with A. Radnaev, Y. Dudin, R. Zhao, J. Blumoff, H. H. Jen, S. Jenkins, and B. Kennedy.