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Quantum Networking with Trapped-Ion Qubits at AFRL

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Quantum networks promise the ultimate in secure connectivity providing channels of communication that are both tamper proof and tamper evident. A quantum network can be executed by remotely linking distance memory nodes comprising trapped-ion qubits via photon-based qubit interconnects. AFRL is pursuing a multipronged approach to develop in-house quantum networking capabilities that ultimately may move beyond a well-controlled research laboratory environment towards a fieldable demonstration.

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