



Seminar/Talk

Microwave quantum communication in superconducting networks

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Host: Johannes Fink

Quantum communication in the microwave frequency regime is set to play an important role in distributed quantum computing and hybrid quantum networks. In a step towards practical quantum networks, we demonstrate quantum teleportation of coherent states over a thermal quantum network composed of two spatially-separated dilution refrigerators, operating at channel temperatures up to 4 K. Furthermore, we investigate a quantum secret sharing protocol in a tripartite superconducting network, reconstructing microwave coherent states with fidelities above the no-cloning threshold and realizing unconditionally secure communication. We explore inherent connections between quantum secret sharing and other important quantum information processing tasks, such as quantum dense coding and elementary quantum error correction of channel erasures. Our results show the experimental feasibility of distributed superconducting architectures and motivate further investigations of practical quantum networks in various frequency regimes.

Wednesday, September 30, 2026 04:00pm - 05:00pm

Office Bldg West / Ground floor / Heinzl Seminar Room (I21.EG.101)



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