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How strong is weak coupling?

Imagine a scenario (due to Bose) where Alice and Bob wish to send quantum bits to each other using a continuous-time quantum walk over a given graph which they view as a quantum channel. Against better judgment, they decide to attach weak edges (much like antennas) to the graph. We prove that this strategy works in creating high-fidelity quantum state transfer between them (under modest assumptions). As an added twist, this protocol is immune to localization.

This is joint work with Alastair Kay.