CHRISTOPHER VAN BOMMEL, University of Guelph
Fidelities and Readout Times of Quantum State Transfer

Continuous-time quantum walks on graphs are a model for the propagation of quantum states in a quantum system. Of particular interest is the measure of the fidelity of transmission, the probability of success of transmitting a quantum state between a source site and a destination site in a given time interval. A fidelity of 1 is the well-known property of perfect state transfer and achieving fidelities arbitrarily close to 1 is the well-known property of pretty good state transfer. In general, time intervals for pretty good state transfer are not explicitly determined. We discuss recent developments regarding classes of graphs for which explicit fidelities of state transfer approaching 1, as well as the required time intervals, can be determined. Joint work with Steve Kirkland.