1135-05-665 **Chris Godsil**, **Krystal Guo**, **Mark Kempton*** (mkempton@cmsa.fas.harvard.edu) and **Gabor Lippner**. *Perfect state transfer in perturbations of strongly regular graphs.* Preliminary report.

Algebraic graph theory has found great success in applications to quantum computing, particularly to the problem of perfect transfer of a quantum state through a network of interacting qubits. Perfect state transfer has been studied in numerous classes of graphs, and has been examined in graphs with weights on edges or vertices. We will examine perfect state transfer on strongly regular graphs that have been perturbed by a weight on an edge and a pair of vertices. We will give infinite families of new examples where perfect state transfer can occur. (Received September 12, 2017)