1145-81-2509        **Erica K Swindle\*** (`erica_swindle@baylor.edu`), Department of Mathematics, Baylor
University, One Bear Place #97328, Waco, TX 76798. *Spectral Properties of Quantum Circulant
Graphs.*

We investigate the spectral properties of quantum circulant graphs. Circulant graphs are the Cayley graphs of cyclic groups, and in the quantum graph the edges are intervals equipped with the negative Laplace or Schrodinger operator. Quantum graphs are a widely studied model of quantum mechanics in a system with complex geometry and the quantum circulant graph model shares important features with the prototypical star graph model. The spectrum of a quantum circulant graph is encoded in a secular equation. This equation takes two forms depending on whether the metric respects the cyclic symmetry of the graph. (Received September 25, 2018)