1162-05-24 **Steve Butler**, **Elizabeth Cooper**, **Aaron Li** and **Kate Lorenzen*** (lorenkj@iastate.edu), 411 Morrill Rd, Carver Hall 421, Ames, IA 50011, and **Zoe Schopick**. *Spectral properties of the exponential distance matrix.*

Given a graph G, the exponential distance matrix is defined entry-wise by letting the (u, v)-entry be $q^{dist(u,v)}$, where $dist(u, v)$ is the distance between the vertices u and v with the convention that if vertices are in different components, then $q^{dist(u,v)} = 0$. We establish several properties of the characteristic polynomial (spectrum) for this matrix and inertia of some graph families. (Received August 12, 2020)