
XIAOHONG ZHANG, University of Waterloo

Laplacian state transfer on weighted paths

Assume that X is a weighted graph with Laplacian matrix $L(X)$. Let $U(t) = e^{itL(X)}$. Then $U(t)$ is a complex symmetric unitary matrix. We say that X admits Laplacian perfect state transfer between vertices j and k at time $t = t_0$ if $|(U(t_0))_{j,k}|^2$, the fidelity of Laplacian state transfer between vertices j and k at time t_0 , is 1. It is known that the unweighted path on n vertices admits Laplacian PST only for $n = 2$. In this talk we will see that no weighted path on $n \geq 3$ vertices admits Laplacian perfect state transfer between its end vertices.