A sharp eigenvalue inequality for signed graph Laplacians

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Abstract

Signed graph Laplacians are a weighted generalization of the usual combinatorial graph Laplacian in which the weights can have either sign. Therefore, they may have both positive and negative eigenvalues unlike their unweighted counterparts. These matrices arise naturally in models for social network dynamics, for example. In this talk I will present recent work on eigenvalue inequalities for signed graph Laplacians.

This is joint work with Ikemefuna Agbanusi and Jared Bronski.