

# Some Eigenvalue Interlacing Results on Matrices Associated with Graphs

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## **Abstract**

Given a graph  $G$ , the adjacency matrix,  $A(G)$ , the standard Laplacian,  $L(G)$ , and the normalized Laplacian,  $\mathcal{L}(G)$ , have been studied intensively. In this talk, eigenvalue interlacing inequalities are given for each of these three matrices under the two operations of removing an edge or a vertex from  $G$ . Examples are given to show that the inequalities are the best possible of their type.