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LIMIT POINTS FOR NORMALIZED LAPLACIAN EIGENVALUES*

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Abstract. Limit points for the positive eigenvalues of the normalized Laplacian matrix of a graph are considered. Specifically, it is shown that the set of limit points for the j-th smallest such eigenvalues is equal to $[0, 1]$, while the set of limit points for the j-th largest such eigenvalues is equal to $[1, 2]$. Limit points for certain functions of the eigenvalues, motivated by considerations for random walks, distances between vertex sets, and isoperimetric numbers, are also considered.

Key words. Normalized Laplacian Matrix, Limit Point, Eigenvalue.

AMS subject classifications. 05C50, 15A18.

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