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DISTANCE LAPLACIAN EIGENVALUE DISTRIBUTION OF A GRAPH WITH GIVEN SOME PARAMETERS

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Abstract. For a connected graph G of order n and an interval I, denote by $m_{\mathscr{DL}(G)}I$ the number of distance Laplacian eigenvalues of G in I. In this paper, applying two different methods, we prove that $m_{\mathscr{DL}(G)}[n,n+1) \leqslant \kappa(G)$, where $\kappa(G)$ is the vertex connectivity of G. Moreover, it is shown that this upper bound is sharp. Finally, based on the dominating induced matching of a graph G, we give the distance Laplacian eigenvalue distribution of the graph G.

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