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ON THE LAPLACIAN COEFFICIENTS OF TRICYCLIC GRAPHS WITH PRESCRIBED MATCHING NUMBER

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Abstract

Let $\phi(L(G)) = \det(xI - L(G)) = \sum_{k=0}^{n}(-1)^k c_k(G)x^{n-k}$ be the Laplacian characteristic polynomial of G. In this paper, we characterize the minimal graphs with the minimum Laplacian coefficients in $\mathscr{G}_{n,n+2}(i)$ (the set of all tricyclic graphs with fixed order n and matching number i). Furthermore, the graphs with the minimal Laplacian-like energy, which is the sum of square roots of all roots on $\phi(L(G))$, is also determined in $\mathscr{G}_{n,n+2}(i)$.

Keywords: Laplacian characteristic polynomial, Laplacian-like energy, tricyclic graph.

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