ON THE MAIN SIGNLESS LAPLACIAN EIGENVALUES OF A GRAPH

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Abstract. A signless Laplacian eigenvalue of a graph G is called a main signless Laplacian eigenvalue if it has an eigenvector the sum of whose entries is not equal to zero. In this paper, some necessary and sufficient conditions for a graph with one main signless Laplacian eigenvalue or two main signless Laplacian eigenvalues are given. And the trees and unicyclic graphs with exactly two main signless Laplacian eigenvalues are characterized, respectively.

Key words. Signless Laplacian eigenvalue, Main eigenvalue, Tree, Unicyclic graph.

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