COPIES OF A ROOTED WEIGHTED GRAPH ATTACHED TO AN ARBITRARY WEIGHTED GRAPH AND APPLICATIONS

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Abstract. The spectrum of the Laplacian, signless Laplacian and adjacency matrices of the family of the weighted graphs \( R \{H \} \), obtained from a connected weighted graph \( R \) on \( r \) vertices and \( r \) copies of a modified Bethe tree \( H \) by identifying the root of the \( i \)-th copy of \( H \) with the \( i \)-th vertex of \( R \), is determined.

Key words. Weighted graph, Generalized Bethe tree, Laplacian matrix, Signless Laplacian matrix, Adjacency matrix, Randić matrix.

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