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A NOTE ON A DISTANCE BOUND USING EIGENVALUES OF THE NORMALIZED LAPLACIAN MATRIX*

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Abstract. Let G be a connected graph, and let X and Y be subsets of its vertex set. A previously published bound is considered that relates the distance between X and Y to the eigenvalues of the normalized Laplacian matrix for G, the volumes of X and Y, and the volumes of their complements. A counterexample is given to the bound, and then a corrected version of the bound is provided.

Key words. Normalized Laplacian matrix, Eigenvalue, Distance.

AMS subject classifications. 05C50, 15A18.

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