



SPECTRAL BOUND FOR SEPARATIONS IN EULERIAN DIGRAPHS*

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Abstract. The spectra of digraphs, unlike those of graphs, is a relatively unexplored territory. In a digraph, a separation is a pair of sets of vertices D and Y such that there are no arcs from D and Y . For a subclass of Eulerian digraphs, a bound on the size of a separation is obtained in terms of the eigenvalues of the Laplacian matrix. An infinite family of tournaments, namely, the Paley digraphs, where the bound holds with equality, is also given.

Key words. Algebraic graph theory, Eigenvalues, Directed graphs.

AMS subject classifications. 05C50, 05C20.

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