On the Rank of a Cograph

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Abstract

The rank of a graph $G$ is defined to be the number of nonzero eigenvalues (counted with multiplicities) of its adjacency matrix. Royle (The Electronic Journal of Combinatorics, 10 (2003) #N11) proved a somewhat surprising result that the rank of a cograph is equal to the number of distinct non-zero rows of its adjacency matrix. In this talk we answer a question posed by Royle by giving an elementary short proof for a more general setting of this rank property of cographs. This talk is based on a joint work with Gerard J. Chang and Liang-Hao Huang appeared in Linear Algebra and its Applications 429 (2008) 601-605.

References


