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Bordering Matrices and the Inverse Eigenvalue Problem for Graphs

An important parameter tied to the inverse eigenvalue problem for graphs is the fewest number of distinct eigenvalues that can be realized by a given graph. To this end we concentrate on bordering a symmetric matrix associated with a given graph and endeavor to control the variation in the number of distinct eigenvalues under this operation. We examine numerous results on the study of the minimum number of distinct eigenvalues as vertices are joined to certain classes of graphs.