

Spectra of some partitioned matrices

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Abstract

Partitioned matrices play a vital role in the study of spectra of graphs. In this talk, we investigate some problems on partitioned matrices such as “When do two partitioned matrices have common eigenvalues?” and “When does the spectrum of a partitioned matrix contain the spectra of some other partitioned matrices even if they do not have the same number of blocks?”. Further, we determine the eigenvalues and eigenvectors of a certain partitioned matrix in terms of the eigenvalues and eigenvectors of its blocks. Also, we study the spectra of partitioned matrices in which some of the blocks are generalized stochastic matrices.