Characterization to invertible bipartite graphs with unique perfect matchings

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Abstract

In 1985, Godsil introduced the definition of (positively) invertible graphs. If the adjacency matrix of a graph is invertible and diagonally similar to a non-negative matrix, then the graph is called (positively) invertible. Godsil proposed the following problem: Which bipartite graphs with unique perfect matching are invertible? In this talk, we give a complete characterization to invertible bipartite graphs with unique perfect matching.

Keywords: invertible graph, bipartite graph, perfect matching

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