

Matching Preclusion of a Generalized Cartesian Product of Graphs

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The matching preclusion number of a graph is the minimum number of edges whose deletion results in a graph without perfect matchings. We consider a generalized Cartesian product of any given two graphs by making copies of the first graph and then connecting them with arbitrary perfect matchings according to the second graph. We show some results concerning the matching preclusion number of the boxdot graphs. Additionally, we prove results regarding the nature of the optimal matching preclusion sets of these boxdot graphs in relation to those of the original two graphs.

Keywords: matchings, interconnection networks, products