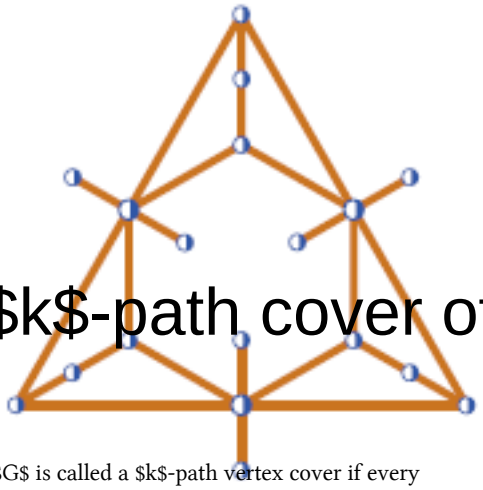
Bled'11 - 7th Slovenian International Conference on Graph Theory

Contribution ID : 88

Vertex k-path cover of graphs



Content :

A subset S of vertices of a graph G is called a k-path vertex cover if every path of order k in G contains at least one vertex from S. Denote by $\psi_k(G)$ the minimum cardinality of a k-path vertex cover in G. In this paper present an upper bound for $\psi_3(G)$ of graphs with given average degree. We also give a lower bound for $\psi_k(G)$ of regular graphs and some results for $\psi_k(G)$ of cartesian products of graphs. In particular, exact formulas for $\psi_3(G)$ of cartesian products of two paths are determined.

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Session classification : --not yet classified--

Track classification : General session

Type : Oral presentation