

special graph classes

Olga Glebova, Yury Metelsky, Pavel Skums

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{\it \$m\$-krausz} dimension \$kdim\_m(G)\$ of the graph \$G\$ is the minimum number \$k\$ such that \$G\$ has a krausz \$(k,m)\$-partition. 1-krausz dimension is known and studied krausz dimension of graph \$kdim(G)\$. In this paper we prove, that the problem \$"kdim(G)\leq 3"\$ is polynomially solvable for chordal graphs, thus partially solvable for chordal.

A {\it krausz \$(k,m)\$-partition} of a graph \$G\$ is the partition of \$G\$ into cliques, such that any

vertex belongs to at most \$k\$ cliques and any two cliques have at most \$m\$ vertices in common. The

Krausz dimension and its generalizations in

graphs, thus partially solving the problem of P. Hlineny and J. Kratochvil. We show, that the problem of finding m-krausz dimension is NP-hard for every  $m \ge 1$ , even if restricted to (1,2)-colorable graphs, but the problem  $\mbox{wkdim}(G) \le k$ " is polynomially solvable for  $(\mbox{wk}, 1)$ -polar graphs for every fixed  $k, m \ge 1$ .

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