

On 2-dominating kernels in graphs

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(joint work with Andrzej Włoch)

A subset $S \subseteq V(G)$ is an independent set of G if no two vertices of S are adjacent in G . A subset $Q \subseteq V(G)$ is a 2-dominating set of G if each vertex from $V(G) \setminus Q$ has at least two neighbours in Q .

We define new kind of kernels in graphs. Using existing concepts of an independent set and a 2-dominating set, we define in the natural way the concept of 2-dominating kernels in graphs.

A subset $J \subset V(G)$ is a 2-dominating kernel of G if J is independent and 2-dominating. Clearly a 2-dominating kernel of G is a kernel of G .

Every graph does not always possess a 2-dominating kernel.

In the talk we give characterizations of some classes of graphs with 2-dominating kernels.