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ON THE SIGNED (TOTAL) k-INDEPENDENCE NUMBER IN GRAPHS

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Abstract

Let G be a graph. A function $f : V(G) \to \{-1, 1\}$ is a signed k-independence function if the sum of its function values over any closed neighborhood is at most $k - 1$, where $k \geq 2$. The signed k-independence number of G is the maximum weight of a signed k-independence function of G. Similarly, the signed total k-independence number of G is the maximum weight of a signed total k-independence function of G. In this paper, we present new bounds on these two parameters which improve some existing bounds.

Keywords: domination in graphs, signed k-independence, limited packing, tuple domination.

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