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Defective Cocolorings

Given a graph G and an integer k , a set S of vertices in G is k -sparse if $G[S]$ has degree at most k . Also, a set D of vertices is k -dense if D is k -sparse in \bar{G} . We first consider the defective Ramsey numbers. Then, we study the defective cocoloring problem which consists in partitioning the vertex set of a given graph into k -sparse and k -dense sets. Let $c_k(m)$ be the largest number n such that all n -graphs are k -defectively cocolorable by at most m colors. We compute some new values for $c_k(m)$ by efficient graph generation methods.