

The decycling number of graphs

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Abstract

The decycling set D of a graph G is a vertex subset of $V(G)$ such that $V(G)/D$ induces no cycles. The decycling set is also known as the feedback vertex set in some literatures. Clearly, we are trying to find a decycling set with minimum size. This minimum size is defined as the decycling number of G . Let $c(G)$ denote the number of vertex disjoint cycles in a graph G . It is easy to see that the decycling number of G , $\delta(G)$, is bounded below by $c(G)$, i. e. $\delta(G) \geq c(G)$. So, it is interesting to know whether there exists a constant k such that $k \cdot c(G) \geq \delta(G)$. In this talk, I shall report the progress of this study when G is a planar graph.