Acyclic choosability of planar graphs

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Abstract

A proper vertex coloring of a graph $G = (V, E)$ is acyclic if G contains no bicolored cycle. Given a list assignment $L = \{L(v)|v \in V\}$ of G, we say G is acyclically L-list colorable if there exists a proper acyclic coloring c of G such that $(v) \in L(v)$ for all $v \in V$. If G is acyclically L-list colorable for any list assignment with $|L(v)| \geq k$ for all $v \in V$, then G is acyclically k-choosable.

In this talk we will give a short survey of acyclic choosability of planar graphs and present a recent result concerning the acyclic 5-choosability of planar graphs.