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Adjacent vertex distinguishing edge coloring of planar graphs with girth at least 5. (Chinese. English summary) [Zbl 1513.05171]

Summary: An adjacent vertex distinguishing edge-colorings of a graph $G$ is a proper edge coloring of $G$ such that any pair of adjacent vertices have distinct sets of colors. The minimum number of color required for an adjacent vertex distinguishing edge-coloring of $G$ is denoted by $\chi'_a(G)$. In this paper, we prove that if $G$ is a planar graph with girth at least 5 and without isolated edges, then $\chi'_a(G) \leq \max \{8, \Delta(G) + 1\}$.

MSC:
05C15 Coloring of graphs and hypergraphs
05C10 Planar graphs; geometric and topological aspects of graph theory
05C07 Vertex degrees
05C35 Extremal problems in graph theory

Keywords:
adjacent vertex distinguishing edge-coloring; planar graph; girth; maximum degree

Full Text: Link

References:

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