

Piłśniak, Monika; Woźniak, Mariusz

On the total-neighbor-distinguishing index by sums. (English) Zbl 1312.05054
Graphs Comb. 31, No. 3, 771-782 (2015).

Summary: We consider a proper coloring c of edges and vertices in a simple graph and the sum $f(v)$ of colors of all the edges incident to v and the color of a vertex v . We say that a coloring c distinguishes adjacent vertices by sums, if every two adjacent vertices have different values of f . We conjecture that $\Delta + 3$ colors suffice to distinguish adjacent vertices in any simple graph. In this paper, we show that this holds for complete graphs, cycles, bipartite graphs, cubic graphs and graphs with maximum degree at most three.

MSC:

05C15 Coloring of graphs and hypergraphs

Cited in **17** Reviews
Cited in **31** Documents

Keywords:

total proper coloring; adjacent-vertex-distinguishing index; neighbor-sum-distinguishing coloring; total-neighbor-distinguishing index

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