Johnston, Daniel; **Zhang, Ping**

An upper bound for the twin chromatic index of a graph. (English) Zbl 1314.05038

Congr. Numerantium 219, 175-182 (2014).

Summary: For a connected graph G of order at least 3 and an integer $k \geq 2$, a twin edge k-coloring of G is a proper edge coloring of G with the elements of $\mathbb{Z}_k$ so that the induced vertex coloring in which the color of a vertex v in G is the sum (in $\mathbb{Z}_k$) of the colors of the edges incident with v is a proper vertex coloring. The minimum k for which G has a twin edge k-coloring is called the twin chromatic index of G and is denoted by $\chi_t'(G)$.

In this note, we show that $\chi_t'(G) \leq < 4\Delta(G) - 3$ for every connected graph G of order at least 3.

MSC:

05C05 Trees
05C15 Coloring of graphs and hypergraphs
05C40 Connectivity

Keywords:

edge and vertex coloring; twin edge coloring