

Locating chromatic number

Let G be a connected graph. Let c be a proper k -coloring of G and $\Pi = \{R_1, R_2, \dots, R_k\}$ be an ordered partition of $V(G)$ into the resulting color classes. For a vertex v of G , the color code $c_\Pi(v)$ of v is the ordered k -tuple $(d(v, R_1), d(v, R_2), \dots, d(v, R_k))$ where $d(v, R_i)$ is minimum distance from v to each vertex $x \in R_i$ for $i \in [1, k]$. If distinct vertices have distinct color codes, then we call c as a locating coloring of G . The minimum number of colors needed in a locating coloring of G , we call as locating chromatic number of G and we denote it by $\chi_L(G)$.

The locating chromatic number was introduced and studied by Chartrand, Erwin, Henning, Slater and Zhang in 2002.

The next paper gives a bound for the locating chromatic number of strong product of two graphs in the term of locating chromatic numbers of its factors.

- Purwasih, I. A.- Bača, M.- Baskoro, E.T.: *The locating chromatic number of strong product of graphs*, Proceedings of the International Conference on Mathematics, Statistics and its Applications, Bali, 19.-21. November 2012, Indonesia.