ABSTRACT

Let $G = (V, E)$ be a connected graph and let c a proper coloring of G. The color class of G is set of colored vertices i,denoted by C_i for $1 \leq i \leq k$. Let be an ordered partition of $V(G)$ to independent color classes. Based on vertex coloring, the representation v with respect to is the color code of v, denoted by $C_\Pi(v)$. The color $C_\Pi(v)$ of $v \in V(G)$ is defined as the ordered k-tuple,

$$C_\Pi(v) = (d(v, C_1), d(v, C_2), \cdots, d(v, C_k)),$$

where $d(v, C_i) = min\{d(v, x)|x \in C_i\}$ for $1 \leq i \leq k$. In every vertex in G have distinct color code, then c is called a locating coloring of G. The locating-chromatic number $\chi_L(G)$ is the minimum number of color in a locating coloring of G. In this paper, we study the locating-chromatic number of helm graph H_m with $3 \leq m \leq 9$.

Keywords : *Locating-Chromatic Number, Helm Graph, Color Code.*