

# Local Distance Antimagic Labeling of Neighborhood Balanced Colored Graphs-2

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## Abstract

Let  $G = (V, E)$  be a graph without isolated vertices. A bijection  $f: V \rightarrow \{1, 2, \dots, |V|\}$  is called a local distance antimagic labeling if  $w(u) \neq w(v)$  for every edge  $uv \in E$ , where the weight  $w(u)$  of a vertex  $u$  is defined as the sum of labels assigned to all vertices adjacent to  $u$ . The local distance antimagic chromatic number of  $G$ , denoted by  $\chi_{ld}(G)$ , is defined as the minimum number of colors taken over all colorings of  $G$  induced by local distance antimagic labelings. In this paper, we study the local distance antimagic chromatic number of the lexicographic product involving neighborhood balanced  $k$ -colored graphs.

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