On the (super) local antimagic (total) vertex coloring of graphs
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The local antimagic labeling of a graph $G$ with $|V|$ vertices and $|E|$ edges is defined to be an assignment $f : E \to \{1, 2, \ldots, |E|\}$ so that the weights of any two adjacent vertices $u$ and $v$ are distinct, that is, $w(u) \neq w(v)$ where $w(u) = \sum_{e \in E(u)} f(e)$ and $E(u)$ is the set of edges incident to $u$. Following this notion, the local antimagic total labeling of $G$ is defined analogously by adding the label of vertices. Then the weight of a vertex $u$ in the local antimagic total labeling is calculated as $w(u) = f(u) + \sum_{e \in E(u)} f(e)$. If the vertices of $G$ receive the smallest labels, that is, $1, 2, \ldots, |V|$, then the such labeling is called super local antimagic total labeling. All these three types of local antimagic labelings induce a proper vertex coloring of $G$ where the vertex $u$ is assigned the color $w(u)$. The (super) local antimagic (total) chromatic number is the minimum number of colors taken over all colorings induced by (super) local antimagic (total) labelings of $G$. In this talk, we present the results on these three types of labelings for some particular classes of graphs.