

عنوان مقاله:

Modular edge colorings of Mycielskian graphs

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خلاصه مقاله:

Let G be a connected graph of order n or more and $c: E(G) \rightarrow \mathbb{Z}_k$ ($k \geq 2$) a k -edge coloring of G where adjacent edges may be colored the same. The color sum $s(v)$ of a vertex v of G is the sum in $\mathbb{Z}_k$ of the colors of the edges incident with v . The k -edge coloring c is a modular k -edge coloring of G if $s(u) \neq s(v)$ in $\mathbb{Z}_k$ for all pairs u, v of adjacent vertices of G . The modular chromatic index $\chi'_m(G)$ of G is the minimum k for which G has a modular k -edge coloring. The Mycielskian of $G, \mathcal{M}(G)$ is the graph $\mathcal{M}(G)$ with vertex set $V \cup V'$, where $V' = \{v': v \in V\}$, and edge set $E \cup \{xy': xy' \in E\} \cup \{v'u: v' \in V'\}$. It is shown that $\chi'_m(\mathcal{M}(G)) = \chi'_m(G)$ for some bipartite graphs, cycles and complete graphs.

کلمات کلیدی:

modular edge coloring, modular chromatic index, Mycielskian of a graph

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