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Total coloring of quasi-line graphs and inflated graphs

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Abstract

A total coloring of a graph is an assignment of colors to all the elements (vertices and edges) of the graph such that no two adjacent or incident elements receive the same color. A claw-free graph is a graph that does not have $K_{1,3}K_{1,3}$ as an induced subgraph. Quasi-line and inflated graphs are two well-known classes of claw-free graphs. In this paper, we prove that the quasi-line and inflated graphs are totally colorable. In particular, we prove the tight bound of the total chromatic number of some classes of quasi-line graphs and inflated graphs.

Keywords:
Total coloring, claw-free graphs, circular interval graphs, quasi-line graphs, inflated graphs

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