On total group choosability of graphs

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(Join with H.J. Lai and G.R. Omidi)

Abstract

In this paper, we study the group and list group colorings of total graphs and we give two group versions of the total and list total colorings conjectures. We establish the group version of the total coloring conjecture for the following classes of graphs: graphs with small maximum degree, two-degenerate graphs, planner graphs with maximum degree at least 11, planner graphs without certain small cycles, outerplanar and near-outerplanar graphs. In addition, the group version of the list total coloring conjecture is established for forests, outerplanar graphs and graphs with maximum degree at most two.

Keywords: Total coloring, List total coloring, Group choosability.

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