Minimum Fractional Total Dominating Functions and Maximum Fractional Open Neighborhood Packings in Connected Finite Simple Graphs
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For connected finite simple graphs with no isolated vertices, the problem of finding the minimum fractional total domination number and the problem of finding the maximum open neighborhood packing number are dual linear programs. Using two fundamental results from linear programming, namely the principle of strong duality and the principle of complementary slackness, I characterize minimum fractional total dominating functions as well as maximum fractional open neighborhood packings for many classes of graphs.

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