EDGE IMBALANCE SEQUENCES AND THEIR GRAPHICNESS

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ABSTRACT. The imbalance of a given edge in a graph is the absolute difference between the degrees of its vertices. The multiset of all edge imbalances in \( G \) is called its imbalance sequence and denoted by \( M_G \). In this paper, we focus on unary and binary graph operations that preserve the graphicness of imbalance sequences. For example, we prove that if a graph \( G' \) is obtained from \( G \) by “replacing” each vertex with a complete graph of sufficiently large order, then the graphicness of \( M_G \) implies the graphicness of \( M_{G'} \). Also, we discuss several conjectures related to the graphicness of the imbalance sequence of a graph and explore connections between them.

REFERENCES


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