PRODUCT-IRREGULAR LABELINGS OF GRAPHS

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Consider a simple graph G with no isolated edges and at most one isolated vertex. A labeling $w : E(G) \to \{1, 2, \ldots, m\}$ is called *product - irregular*, if all product degrees $pd_G(v) = \prod_{e \ni v} w(e)$ are distinct. The goal is to obtain a product - irregular labeling that minimizes the maximal label. This minimal value is called *the product irregularity strength* and denoted $ps(G)$. One may also consider some variants of $ps(G)$, as e.g. its local version or the situation when vertex labeling is also allowed.

We consider product-irregular labelings of graphs from several families, as e.g. complete graphs, some graphs with $\delta(G) = 1$ and some families of trees.

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