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On packable digraphs

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Abstract

One of the classical results in packing theory states that every graph of order n and size less than or equal to $n - 2$ is packable in its complement. Moreover, the bound is sharp because the star is not packable. A similar problem arises for digraphs, namely, to find the maximal number $f_D(n)$ such that every digraph of order n and size less than or equal to $f_D(n)$ is packable. So far it is known that $\frac{7}{4}n - 81 \leq f_D(n) \leq 2n - 4$ where the upper bound is sharp. In this paper we prove that $f_D(n) = 2n - o(n)$.