Mathematics > Combinatorics

Equivalence between Extendibility and Factor-Criticality

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In this paper, we show that if $k\geq (\nu+2)/4$, where ν denotes the order of a graph, a non-bipartite graph G is k-extendable if and only if it is $2k$-factor-critical. If $k\geq (\nu-3)/4$, a graph G is $k\ 1/2$-extendable if and only if it is $(2k+1)$-factor-critical. We also give examples to show that the two bounds are best possible. Our results are answers to a problem posted by Favaron [3] and Yu [11].

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