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Note

ON DOUBLE-STAR DECOMPOSITION OF GRAPHS

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Abstract

A tree containing exactly two non-pendant vertices is called a double-star. A double-star with degree sequence $(k_1 + 1, k_2 + 1, 1, \ldots, 1)$ is denoted by S_{k_1,k_2}. We study the edge-decomposition of graphs into double-stars. It was proved that every double-star of size k decomposes every $2k$-regular graph. In this paper, we extend this result by showing that every graph in which every vertex has degree $2k + 1$ or $2k + 2$ and containing a 2-factor is decomposed into S_{k_1,k_2} and S_{k_1-1,k_2}, for all positive integers k_1 and k_2 such that $k_1 + k_2 = k$.

Keywords: graph decomposition, double-stars, bipartite graph.

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