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Note

ON A SPANNING k-TREE IN WHICH SPECIFIED VERTICES HAVE DEGREE LESS THAN k

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Abstract

A *k-tree* is a tree with maximum degree at most k. In this paper, we give a degree sum condition for a graph to have a spanning k-tree in which specified vertices have degree less than k. We denote by $\sigma_k(G)$ the minimum value of the degree sum of k independent vertices in a graph G. Let $k \geq 3$ and $s \geq 0$ be integers, and suppose G is a connected graph and $\sigma_k(G) \geq |V(G)| + s - 1$. Then for any s specified vertices, G contains a spanning k-tree in which every specified vertex has degree less than k. The degree condition is sharp.

Keywords: spanning tree, degree bounded tree, degree sum condition.

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