

1117-05-235

Xiaofeng Gu*, Department of Mathematics, University of West Georgia, 1601 Maple Street, Carrollton, GA 30118. *Packing spanning 2-connected k -edge-connected essentially $(2k - 1)$ -edge-connected subgraphs.*

Let $k \geq 2, p \geq 1, q \geq 0$ be integers. We prove that every $(4kp - 2p + 2q)$ -connected graph contains p spanning subgraphs G_i for $1 \leq i \leq p$ and q spanning trees such that all $p + q$ subgraphs are pairwise edge-disjoint and such that each G_i is k -edge-connected, essentially $(2k - 1)$ -edge-connected, and $G_i - v$ is $(k - 1)$ -edge-connected for all $v \in V(G)$. This extends the well-known result of Nash-Williams and Tutte on packing spanning trees, a theorem that every $6p$ -connected graph contains p pairwise edge-disjoint spanning 2-connected subgraphs, and a theorem that every $(6p + 2q)$ -connected graph contains p spanning 2-connected subgraphs and q spanning trees, which are all pairwise edge-disjoint. (Received January 15, 2016)