Yan, Zheng; **Tsugaki, Masao**
Spanning k-ended trees of a claw-free graph. (English) Zbl 1358.05062
Adv. Appl. Discrete Math. 17, No. 4, 453-459 (2016).

Summary: For a tree T, a vertex of T with degree one is often called a leaf of T. Let $k \geq 2$ be an integer. We prove that if a connected claw-free graph G satisfies $\alpha^3(G) \leq k$, then G has a spanning tree having at most k leaves, where $\alpha^3(G)$ denotes the maximum number of vertices of G that are pairwise distance at least three in G. This result implies a known result proved by *M. Kano* et al. [Ars Comb. 103, 137–154 (2012; Zbl 1265.05100)] which states that if the minimum degree sum of independent $k+1$ vertices of a connected claw-free graph G is at least $|G| - k$, then G has a spanning k-ended tree. The condition on $\alpha^3(G)$ is sharp.

MSC:

05C05 Trees

Keywords:

spanning tree; claw-free graph; leaf; k-ended tree

Full Text: DOI