

Degree conditions on induced nets for the hamiltonicity of claw-free graphs

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Abstract

Let N be the graph obtained from a K_3 by adding a pendant edge on each vertex of K_3 . A vertex with degree one in N is an end-vertex of N . A such graph N is called a net. In 1993 (Problem 2, in: Workshop Cycles and Colourings (Novy Smokovec, Slovakia, 1993), available on <http://umv.science.upjs.sk/c&c/history/93problems.pdf>), Broersma conjectured that for 2-connected claw-free graphs H , if the degree on each end-vertex of each induced net N is at least $(|V(H)| - 2)/3$, then H is Hamiltonian. In this talk, I will present the proof of this conjecture and discuss some related conjectures and open problems.