

Unavoidable minors in large graphs

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Abstract. Mader proved that lower bounds imposed on connectivity or average degree of a graph G imply existence of certain minors in G . If we also require that the order of G is large enough, then we may say more. In the talk, a survey on results of the following type will be given. Let M_1, \dots, M_k, \dots be a sequence of distinct graphs such that every graph in the sequence contains all preceding ones as a minor. Does there exist a fixed graph property P and a function $f(k)$ such that every graph with property P and with more than $f(k)$ vertices contains M_k as a minor, $k = 1, 2, \dots$?

Among the more interesting cases, we shall expose connectivity and toughness conditions. Some relations to the Hadwiger conjecture will be presented.