

Unavoidable Minors of Graphs of Large Type

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(joint work with John Dittmann)

We study one measure of complexity of a graph, namely its type. The *type* of a graph G is defined to be the minimum number n such that there is a sequence of graphs $G = G_0, G_1, \dots, G_n$, where G_i is obtained by contracting one edge in or deleting one edge from each block of G_{i-1} , and where G_n is edgeless. We show that a 3-connected graph has large type if and only if it has a minor isomorphic to a large fan. Furthermore, we show that if a graph has large type, then it has a minor isomorphic to a large fan or to a large member of one of two specified families of graphs.