

EVERY GRAPH IS ESSENTIAL TO LARGE TREewidth

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(This talk is based on joint work with Édouard Bonnet, Pedro Bureo Villafana and Nicolas Trotignon..)

We show that for every graph H , there is a weakly sparse hereditary graph class $\mathcal{X}$ of unbounded treewidth such that the H -free (i.e., excluding H as an induced subgraph) graphs of $\mathcal{X}$ have bounded treewidth. This refutes several conjectures and puts a strong lower bound on how complicated an induced analogue of the grid minor theorem would need to be.