

Bouchitté, V.; Kratsch, D.; Müller, H.; Todinca, I.
On treewidth approximations. (English) Zbl 1035.05087
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Summary: We introduce a natural heuristic for approximating the treewidth of graphs. We prove that this heuristic gives a constant factor approximation for the treewidth of graphs with bounded asteroidal number. Using a different technique, we give a $\mathcal{O}(\log k)$ approximation algorithm for the treewidth of arbitrary graphs, where k is the treewidth of the input graph.

MSC:

05C85 Graph algorithms (graph-theoretic aspects)
68W25 Approximation algorithms

Cited in 11 Documents

Keywords:

Treewidth; Asteroidal number; Minimal separator; Graph algorithm; Approximation algorithm

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