

Graphs with complete minimal k -vertex separators

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G. A. Dirac characterized chordal graphs as those in which minimal vertex separators always induce complete subgraphs. I generalize a traditional (2-)vertex separator to a k -vertex separator — meaning a set S of vertices whose removal puts k independent vertices into k separate components. Generalizing Dirac's theorem, the $\{P_5, 2P_3\}$ -free chordal graphs are the graphs in which minimal k -separators always induce complete subgraphs. I discuss other features of k -vertex separators, including their appearance in clique trees of chordal graphs.