

Vertex Cuts

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(Joint work with Bernhard Krön).

A structure tree theory for connected graphs is described, which is based on analyzing the finite sets of vertices whose removal disconnects the graph. This gives a significant generalization of Tutte's tree decomposition of 2-connected graphs into 3-connected blocks. For a finite graph there is structure tree that contains information about k -connectivity for any k . The theory can also be applied to infinite graphs that have more than one vertex end, i.e. ends that can be separated by removing a finite number of vertices. This gives a generalization of Stallings' structure theorem for groups with more than one end.

Reference

M.J.Dunwoody and B.Krön, *Vertex cuts*.

<http://www.personal.soton.ac.uk/mjd7/Pub.html>, arXiv:0905.0064.