

Combinatorics Seminar

Friday October 19, 2012 at 2PM

Room MS.03

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Random walks on graphs, and the Kirchhoff and Wiener Index

It is well known that the vertices of any graph can be put in a linear preorder so that, for random walk on the graph, vertices appearing earlier in the preorder are “easier to reach but more difficult to get out of”. We exhibit further such preorders corresponding to various functions related to random walk, and study their relationships. These preorders coincide when the graph is a tree, but not necessarily otherwise. In the case of trees, we prove a simple identity relating hitting times to the Wiener index. The original motivation for this work was the study of cover time, and a connection will be shown. Joint with S. Wagner (Stellenbosch)



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