Lucas Sabalka (Binghamton)

Graph Braid Groups

Abstract for the Combinatorics Seminar 2009 December 1

A class of groups of great importance is Artin's classical and much studied braid groups. These groups may be defined topologically, in terms of configurations of points on a disk. A natural generalization of classical braid groups is to replace the disk with other spaces. This leads us to consider braid groups on graphs. The combinatorial structure of a graph passes to these spaces of configurations, with important group-theoretic consequences.

I will discuss the definition of graph braid groups and give a survey of some known results. In particular, I will discuss the relationship between graph braid groups and right-angled Artin groups, and possibly the isomorphism problem for certain tree braid groups.

I will emphasize the combinatorics behind the group theory and topology, and the talk will be informal and largely expository.
