Parabolic subgroups for complex braid groups

Ivan Marin

CNRS and Universite d'Amiens

I shall present a general definition of what should be considered a parabolic subgroup for the generalized braid group associated to a complex reflection group, and present a series of a remarkable properties of these subgroups. Among these, one shows that intersection of parabolic subgroups are parabolic subgroups, so that they form a lattice of subgroups. They are also the vertices of a graph on which the generalized braid group acts faithfully (modulo center), and which generalizes the curve graph for the usual braid group on n strands. As a consequence, this graph is conjectured to be hyperbolic.