

Commensurability in Artin groups

Luis Paris (Dijon)

17 May 2018

Abstract: Recall that an Artin group is a group defined by a presentation with relations of the form $sts\cdots = tst\cdots$, the word on the left hand side and the word on the right hand side having the same length. These groups were introduced by Tits in the 1960s and they are involved in several fields such as singularities, low-dimensional topology, or geometric group theory.

There are very few results valid for all Artin groups and the theory mainly consists on the study of particular families. The most studied and better understood are the family of right-angled Artin groups (RAAG) and the family of spherical type Artin groups. The latter is the topic of the talk. Following a result from 2004 where I proved that two spherical type Artin groups are isomorphic if and only if they have the same presentation, the project of classifying these groups up to commensurability was born. This relation is a kind of equality up to finite index.

Our aim will be to give a general presentation on this question and to explain recent advances.