

”Finitely presented random groups are surface-like”

Goulnara Arzhantseva

Let $L \geq 1$ be an integer. We show that with overwhelming probability, a random finitely presented group satisfies the following properties.

- Any subgroup of rank at most L and of infinite index is free and quasiconvex.
- No finite-index subgroup of the group is free.

The result is related to (still open) Gromov’s question: whether every one-ended word hyperbolic group contains a surface subgroup. The proof uses a representation of finitely generated subgroups by means of finite labelled graphs.