

Seminarium geometrów

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Francesco Fournier-Facio (University of Cambridge)

Monsters with homological control

Abstract: Many constructions of “monster groups” use small cancellation theory to add relations one by one to force a strange combination of properties in the limit. For instance, this is the way that Ol’shanskii built torsion-free Tarski monsters, i.e. non-cyclic groups with all proper subgroups isomorphic to \mathbb{Z} . In joint work with Bin Sun, we develop a method to construct such monsters while having strong control on homology. This leads to several constructions of groups with new properties: finitely generated simple groups of all cohomological dimensions, torsion-free groups with a jump in the cohomological dimension of subgroups, torsion-free groups with the fixed point property for actions on finite dimensional CW complexes, and measurably diverse finitely generated groups.

streaming via ZOOM:

Meeting ID: 967 6507 7409

Meeting password: “GS” (two letters) followed by the Euler characteristic of the closed orientable surface of genus 89.