

Exotic extensions of groups acting on rooted trees

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(Joint work with Steffen Kionke)

Abstract

Given an infinite rooted tree T , I will extend some known constructions of groups acting continuously on T by inserting some discontinuous behavior. As a result, we obtain a finitely generated, residually finite group G with a variety of exotic properties: Every finite quotient of G is a direct product of non-abelian simple groups, G is amenable while possessing an infinite simple quotient, the profinite completion of G coincides with the profinite completion of a group with property (τ) , G gives rise to a continuum of so-called Grothendieck pairs. If time permits, I will discuss the construction of such a group G from a more general point of view by introducing so-called B -systems. These take a group B and a directed systems of groups as an input and produce groups with properties similar to those of G .

Keywords: profinite completion, amenable, branch group

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