

On pro- p analogues of limit groups via extensions of centralizers

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We begin a study of a pro- p analogue of limit groups via extensions of centralizers and call \mathcal{L} this new class of pro- p groups. We show that the pro- p groups of \mathcal{L} have finite cohomological dimension, type FP_{∞} and non-positive Euler characteristic. Among the group theoretic properties it is proved that they are free-by-(torsion-free poly-procyclic) and if non-abelian do not have a finitely generated non-trivial normal subgroup of infinite index. Furthermore it is shown that every 2 generated pro- p group in the class \mathcal{L} is either free pro- p or abelian.

Comments: This is a corrected version of the paper published in Math. Z. 267 (2011), no. 1-2, 109-128. The difference is Section 4, where we show that the proof of Theorem 4.1 of the published version proves that a pro- p limit group is free-by-(torsion free polyprocyclic). It does not however prove that a pro- p limit group is free-by-(torsion free finitely generated nilpotent)

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