

Lie algebras and finite presentability of pro- p groups

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Abstract

Let G be a pro- p group and let $L(G)$ be the graded Lie algebra of G with the respect to the lower central series. There is a well known relation between finite presentability of G and $L(G)$; if $L(G)$ is finitely presented as a \mathbb{Z}_p Lie algebra, then G is finitely presented as a pro- p group. I will prove this fact and discuss its generalizations.