A non-finitely based variety of centre-by-abelian-by-nilpotent groups of exponent 8

Alexei Krasilnikov

Abstract

The first example of a non-finitely based variety of centre-by-abelian-by-nilpotent groups was found in 1995 by C.K.Gupta and the present author. This example has infinite exponent but it can be seen that the method used to construct it also gives such a variety which has exponent 128. Later R.M.Bryant and the present author have proved that there exists a variety with similar properties but with exponent 32. But the latter result, in contract to the former one, is an existence statement: no system of identities which defines that non-finitely based variety of exponent 32 was explicitly found. The aim of my talk is to construct explicitly a non-finitely based variety of centre-by-abelian-by-nilpotent groups which has exponent 8.