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ON NILPOTENT AUTOMORPHISM GROUPS OF FUNCTION FIELDS

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Abstract

We study the automorphisms of a function field of genus $g \geq 2$ over an algebraically closed field of positive characteristic p . More precisely, we show that the order of a nilpotent subgroup G of its automorphism group is bounded by $16(g - 1)$ when G is not a p -group. We show that if $|G| = 16(g - 1)$, then $g - 1$ is a power of 2. Furthermore, we provide an infinite family of function fields attaining the bound. This is a joint work with Nurdagül Anbar.

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