

# Seminarium geometrów

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## Equations in acylindrically hyperbolic groups

Abstract: I'll give main definitions and explain some technique from the theory of acylindrically hyperbolic groups (AH-groups) developed by D. Osin. After that I'll explain my recent results:

- 1) A generalization of the periodicity theorem of Fine and Wilf for loxodromic elements in acylindrically hyperbolic groups.
- 2) A result on a uniform divergence of quasi-geodesics determined by loxodromic elements in AH-groups.
- 3) A result on solutions of certain equations in AH-groups.
- 4) A result on verbally (algebraically) closed AH-subgroups in finitely presented groups. This implies a solution of a conjecture of Myasnikov and Roman'kov.