ALGEBRA SEMINAR

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Wednesday, HH-3017, 1:00p.m.

Graded polynomial identities, group actions and exponential growth of Lie algebras.

Abstract:

Codimensions of an algebra are interesting numeric invariants of its polynomial identities. It turns out that their asymptotic behaviour is tightly connected with the structure of the algebra. In the 80's, a conjecture about the asymptotic behaviour of codimensions of ordinary polynomial identities was made by S.A. Amitsur. In 1999-2011 Amitsur's conjecture was proved by A.Giambruno, M.V. Zaicev and I.P.Shestakov for associative algebras and finite dimensional Lie, Jordan and alternative algebras. Alongside with ordinary polynomial identities of algebras, graded polynomial identities and G-identities are important too.

This talk is devoted to graded codimensions and G-codimensions of Lie algebras. I'll provide the background, formulate the theorems and discuss important examples. The discussion of the proof will be continued during the next talk.