



Mês de: Novembro 2009

SEMINÁRIO DE TEORIA DOS MODELOS

Dia 4 de Novembro (quarta-feira), às 15h, na Sala B3-01

“On Hrushovski's recent paper on approximate subgroups (Part II)”

ALEX USVYATSOV

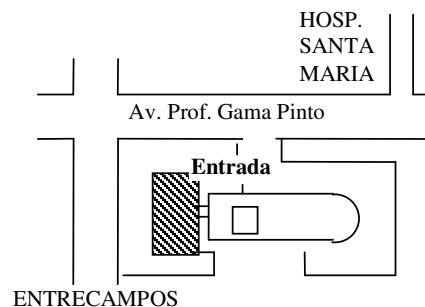
(CMAF-UL)

Abstract:

The notion of approximate subgroup was introduced by Terry Tao. A finite subset X of a group is called a k -approximate subgroup if X contains the identity, is closed under inverses and XX is contained in k right cosets of X . It is conjectured that unless the group is close to being abelian, every approximate subgroup is "comparable" to an actual subgroup. One well-known result in this direction is Gromov's Theorem on finitely generated groups of polynomial growth. In a recent preprint, Hrushovski has made a significant progress on this problem, using sophisticated model theoretic techniques. The aim of my talk is to explain my (somewhat limited at this point) understanding of the general ideas behind the proofs, especially where and how model theory is used. Amazingly enough, the ideas in this paper combine in some sense all model theory of groups which has been developed so far (including simple and o-minimal theories). I intend to state and explain the central model theoretic results, and sketch a proof of at least one combinatorial consequence, in order to demonstrate the basic model-theoretic techniques.

Parcialmente suportado pela FCT ao abrigo do Financiamento Base-ISFL/1/209

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