

Title: Sieve methods in group theory.

Abstract: Sieve theory is a classical and well develop area of analytic number theory. It had been applied in an attempt to solve many classical problems. In the recent years, there had been a great progress in the study of property- τ . This progress allows to use the sieve method also in group theory. In this talk we will present another application of the sieve in group theory:

Let Γ be a finitely generated non-virtually-solvable subgroup of $GL_n(\mathbb{C})$. Then, a “generic” element of Γ is not a proper power, i.e. does not belong to the set $\{g^n \mid g \in \Gamma \wedge n \geq 2\}$. This result is joint work with Alexander Lubotzky.