Kazhdan groups and their applications

Groups with property T were introduced by Kazhdan in 1962 to answer some purely algebraic questions about arithmetic groups. Since then, many applications for these groups in algebra, measure theory, combinatorics, etc. has been found. In particular, Lubotzky and Pak discovered that property T for certain automorphism groups can be used to understand the mixing time of random walks on finite groups. In this talk, after an introduction to Property T, we will explain a method for obtaining a lower bound for the Kazhdan constant of the groups in question, and show some implications when combined with Lubotzky-Pak's theorem.

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