

Adam Mickiewicz University
Faculty of Mathematics and Computer Science

GEOMETRY AND TOPOLOGY SEMINAR

1:45 PM, Wednesday, November 07, 2018

B2-38, Collegium Mathematicum

Speaker: Marek Kaluba (Adam Mickiewicz University)

Title: Kazhdan Property (T) for $SL_N(\mathbb{Z})$ and related groups

Abstract:

We present a completely new proof of Kazhdan Property (T) for the whole family of special linear groups defined over integers. The proof is strikingly simple and uses

1. the action of A_n on $SL_N(\mathbb{Z})$ as the outer automorphism group preserving the (standard) generating set;
2. the known result that $SL_3(\mathbb{Z})$ has property(T);
3. one computer-assisted computation in $RSL_3(\mathbb{Z})$.

Based on the result we give much better estimates for the so called Kazhdan constants, which are very close to the existing upper bounds.

We will discuss how the proof may extend to the other families of groups with symmetric generating sets.