

“Group Theory International” Online Seminar

Doron Puder

(Hebrew University, Israel)

“Measure preserving words are primitive”

Thursday, Sep 13, noon (New York Time)

Abstract:

We consider two properties of words in F_k , the free group on k generators. A word w is called primitive if it belongs to a basis (that is, a free generating set) of F_k . It is called measure preserving if for every finite group G , all elements of G are obtained by the word map $w : G^k \rightarrow G$ the same number of times. It is an easy observation that a primitive word is measure preserving. Lubotzky, Larsen and several other mathematicians have conjectured that the converse is also true. After proving the special case of F_2 , we manage to prove the conjecture in full in a joint work with O. Parzanchevski. The proof involves the study of word maps when G is the symmetric group, and has implications also on the study of expansion of random graphs. Different tools are used in the proof, including Stallings core graphs, random coverings of graphs, Möbius inversions and algebraic extensions of free groups. I'll try to illustrate some of these in the talk.

Next presentation: **Sep 27, TBA**