Seminarium geometrów

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Maximal amenable subgroups of arithmetic groups and their von Neumann algebras

Abstract: In this recent joint work with Alessandro Carderi we systematically study (commensurably) maximal amenable subgroups of arithmetic groups (in characteristic 0). We prove a classification result for those and, using the notion of singularity introduced in earlier work by Remi Boutonnet and Alessandro Carderi, we prove that they are singluar and thus give rise to maximal amenable von Neumann subalgebras of the corresponding group von Neumann algebras. This provides a rich source of new examples of maximal amenable von Neumann subalgebras. A particular feature of this approach is that the groups can be constructed very explicitly using some algebraic number theory which will also be briefly discussed in the talk.