Dynamical Systems Seminar

Date. September 26, 14h30m

Place. Room M030

Speaker. Manuel Stadlbauer [1] (UFBA – Brasil)

Title. Kesten's amenability criterion for group extensions of shift spaces

Abstract. A classical theorem on symmetric random walks on groups asserts that the spectral radius of the associated Markov operator is equal to one if and only if the group is amenable. In here, we extend the result to group valued cocycles defined on topological Markov chains.

Under very mild assumptions on the continuity and symmetry of the associated potential, amenability of the group implies that the Gurevic pressures of the extension and the base coincide whereas the converse holds true only if the potential is Hölder continuous and the topological Markov chain has big images and preimages. This result then has interesting implications for periodic covers of hyperbolic manifolds as well as for random walks with stationary increments.

References: M. Stadlbauer, *An extension of Kesten's criterion for amenability to topological Markov chains*, Advances in Mathematics 235, 450–468, 2013

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[1]Manuel Stadlbauer é Mestre (1999) e Doutor (2002) em Matemática pela Universidade de Gottingen. Actualmente é professor adjunto da Universidade Federal da Bahia, actuando principalmente nos seguintes temas de pesquisa em Matemática: teoria ergódica, geometria hiperbólica, formalismo termodinâmico, álgebras de operadores e random countable Markov Shifts. Desde 2012 é editor associado da revista "Stochastics & Dynamics".