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Stable ergodicity of random rotations

Dmitry DOLGOPYAT
Department of Mathematics
University of Maryland
4417 Mathematics Bldg
College Park, MD 20742
USA

dmitry@math.umd.edu

Abstract

Let $R_1, R_2 \dots R_m$ be rotations generating SO_{d+1} , $d \geq 2$, and $f_1, f_2 \dots f_m$ be their small smooth perturbations. We show that $\{f_\alpha\}$ can be simultaneously linearized if and only if the associated random walk has zero Lyapunov exponents. As a consequence we obtain stable ergodicity of actions of random rotations in even dimensions.

Joint work with Raphael Krikorian.