Dynamical Systems and Applications



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Lyapunov exponents of area preserving endomorphisms

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We consider a family of area preserving non-invertible maps on the two-torus, which is the composition of the well-known Chirikov standard family (s_r) with a linear expansion E. If E is an homothety then our family can be seen as a "randomized" version of the standard family. We show on one hand that the Lyapunov exponents are different for all small values of r. On the other hand, for large enough expansion and values of the shear parammeter r, we also obtain lower bounds for the difference between the two Lyapunov exponents.

We will discuss ome possible generalization.

This is joint work with Martin Andersson, Pablo Carrasco and Jiagang Yang.

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