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Title: The zero level set of Lyapunov exponents

We consider skew products whose base dynamics is given by a shift and the fiber dynamics are circle diffeomorphisms. The dynamics is transitive and there are intermingled regions where the fiber dynamics is contracting and expanding, respectively. The dynamics also exhibits many nonhyperbolic (fiber Lyapunov exponent equal to zero) ergodic measures, some of them with positive entropy.

We discuss the approximation (in the weak $*$ topology and in entropy) of nonhyperbolic measures by hyperbolic ones. We use this description to study the entropy spectrum of Lyapunov exponents. We will discuss applications of our methods to elliptic cocycles and partially hyperbolic diffeomorphisms.

Works in collaboration with K. Gelfert (UFRJ, Brazil) and M. Rams (IMPAN, Poland)