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Título: Non-hyperbolic measures with as-large-as-possible entropy

Resumo: We aim to quantify the "lack of hyperbolicity" in robustly transitive nonhyperbolic partially hyperbolic diffeomorphisms with a onedimensional center bundle. For that, we study paradigmatic toy models: skew products of C^1 circle diffeomorphism. Such models naturally arise also from the projective action of certain 2×2 elliptic matrix cocycles and have intrinsic interest. Nonhyperbolicity is presented by the coexistence of saddles of different types of hyperbolicity. More generally, it can be formulated in terms of fiber-expanding and -contracting regions that are mingled by the dynamics. Hyperbolicity is characterised in terms of the Lyapunov exponent in the circle fiber direction. It is shown that these models admit nonhyperbolic (i.e. zero exponent) ergodic measures. By performing a multifractal analysis for Lyapunov exponents and establishing restricted variational principles of the entropy, we can characterise the "amount of nonhyperbolicity", that is, the maximal entropy of nonhyperbolic ergodic measures. Moreover, we construct ergodic nonhyperbolic measures with "as large as possible" entropy. This is joint work with L.J. Díaz, M. Rams, B. Santiago, and J. Zhang.