On entropy of nonuniformly hyperbolic measures

Dominik Kwietniak[1]

[1] Jagellonian University

We discuss the entropy of nonuniformly hyperbolic measures constructed using two methods introduced, respectively, by Gorodetski et al. and by Bochi et al. In a joint work with Martha Łącka, we show that measures defined by Gorodetski et al. always have zero entropy and are Kakutani equivalent to an ergodic group rotation. In a joint work with Bonatti and D'ıaz, assuming robust transitivity, we prove that in the partially hyperbolic setting there robustly exists an ergodic nonhyperbolic measure with full support and positive entropy. The novelty of this result is that we address all four conditions (robustness, ergodicity, positive entropy, and full support) together, while previous works dealt only with a subset of these conditions. For the proofs, we introduce and study a new tool: the Feldman-Katok pseudometric fk-bar, which leads to a new notion of convergence for invariant measures.