P. Varandas

Title:

Equilibrium states for some non-uniformly expanding maps

Abstract:

I report on some recent contributions to the theory of equilibrium states for a large class of non-uniformly expanding local homeomorphisms. In a joint work with Marcelo Viana, we prove existence of finitely many ergodic equilibrium states for Holder continuous potentials with not very large oscillation. No Markov structure is assumed. If the transformation is topologically mixing there is a unique equilibrium state, it is exact and satisfies a nonuniform Gibbs property. Under mild additional assumptions we also show that equilibrium states vary continuously with the dynamics and the potentials (statistical stability) and are also stable under stochastic perturbations of the transformation.