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Título: Positivity of the Hausdorff dimension of generic Markov and Lagrange spectra of horseshoes

Resumo: We prove that there exists a C^1-open and C^r-dense set of among the set of C^r diffeomorphisms of a compact manifold of dimension bigger or equal than two admitting a transverse homoclinic intersection such that for any such diffeomorphism, there exists a C^1-open and dense set of C^1 real functions of this manifold satisfying that the data diffeomorphism and function has positive Markov and Lagrange spectra. As a consequence, we obtain that there exists a C^1-open and dense subset of data diffeomorphism and function such that either is a Morse-Smale diffeomorphism and the pair has finite Lagrange spectrum or the diffeomorphism has positive entropy and the Lagrange spectrum has positive Hausdorff dimension.