Multifractal formalism for Benedicks-Carleson quadratic maps

Yong Moo CHUNG

Abstract:
For a positive measure set of stochastic quadratic maps on the interval, we establish a level 2 large deviation principle with smooth measures as references. We also give a formula which relates the Birkhoff spectrum of a continuous function to entropies and Lyapunov exponents of invariant probability measures, and then use this formula to show that the spectrum is continuous. We use the sub-exponential slow recurrence condition of Benedicks and Carleson, to build various induced Markov maps and associated towers, to which the smooth measures can be lifted.
This is a joint work with Hiroki Takahasi.