
Large deviations

Davit Martirosyan^{*1}

¹Laboratoire d'Analyse, Géométrie et Modélisation (AGM) – CNRS : UMR8088, Université de Cergy
Pontoise – France

Abstract

The talk is devoted to the derivation of large deviations principle for the family of stationary measures of the Markov process generated by the flow of the damped wave equation with vanishing smooth white noise. The main novelty is that we do not assume that the limiting equation possesses a unique equilibrium and that we do not impose roughness on the noise. Our proof is based on a development of the approach introduced by Freidlin and Wentzell for the study of large deviations for stationary measures of stochastic ODEs on a compact manifold, and some ideas introduced by Sowers. A key ingredient of the proof relies on a new result according to which any discrete-time Markov chain possesses a positive finitely additive stationary measure.

^{*}Speaker