

1052-60-321

Leonid Koralov* (koralov@math.umd.edu), Department of Mathematics, University of Maryland, College Park, MD 20742. *Deterministic and stochastic perturbations of Hamiltonian systems.*

I'm going to discuss our joint work with D. Dolgopyat and M. Freidlin where we study deterministic and stochastic perturbations of Hamiltonian systems on a two-dimensional torus. Even in the case of purely deterministic perturbations, the long-time behavior of such systems can be stochastic, in a certain sense. The stochasticity is caused by the instabilities near the saddle point of the non-perturbed system as well as by the ergodic component of the Hamiltonian system on the torus. (Received August 31, 2009)