



北京理工大学

数学与统计学院学术报告

周期扰动Langevin系统在小噪声激励下的亚稳态迁移 ——兼谈随机哈密顿系统

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时间： 2024年11月18日(周一)下午16:00-17:00

地点： 文萃楼F座203

摘要： In this talk, we will talk about the noise-induced rare transition of periodically driven systems. The maximum likelihood paths (MLPs) are often sought, in order to reveal the transition mechanism. We show that MLPs between metastable periodic states could persist to a small nonautonomous forcing under appropriate conditions. Furthermore, we obtain a closed-form explicit expression for approximating the transition rate change. They are obtained based on standard perturbation techniques for the Euler-Lagrange equation, the Melnikov theory, as well as a linear-theory calculation. Our methods indicate a route for a detailed understanding for the interaction between periodic forcing and noise in rather general systems. Furthermore, we also would like to briefly introduce some basic concepts as well as some potential applications for stochastic Hamiltonian dynamics. This talk is based on the joint works with Ying Chao, Jinqiao Duan & Qiao Huang.