

1154-60-1026

Jinqiao Duan* (duan@iit.edu), RM 115B, Rettaliata Engineering Center, Illinois Institute of Technology, Chicago, IL 60616. *Most Probable Transition Pathways in Stochastic Dynamical Systems*. Preliminary report.

Dynamical systems arising in engineering and science are often subject to random fluctuations. The noisy fluctuations may be Gaussian or non-Gaussian, which are modeled by Brownian motion or α -stable Levy motion, respectively. Non-Gaussianity of the noise manifests as nonlocality at a “macroscopic” level. Stochastic dynamical systems with non-Gaussian noise (modeled by α -stable Levy motion) have attracted a lot of attention recently. The non-Gaussianity index α is a significant indicator for various dynamical behaviors.

The speaker will present recent work on most probable transition pathways between metastable states, for stochastic dynamical systems with non-Gaussian Levy noise. This is joint work with Ying Chao. (Received September 12, 2019)