

Stochastic n -point D -bifurcations of stochastic Lévy flows and their complexity on finite spaces

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Brownian flows of diffeomorphisms are known to be rigid in the sense that any ω -wise invariant measure of the flow is uniquely determined by the usual invariant measure of the respective 1 and 2-point motion. For general Markovian systems this turns out to be false. In order to quantify this defect we introduce the notion of a stochastic n -point bifurcation which provides new information about the random dynamics. We construct several classes of examples already over finite spaces including the minimal example where this phenomenon occurs.