Seminário de sistemas dinâmicos e estocásticos

IMECC - UNICAMP

Bifurcations of stochastic n-point motions

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Resumo:

We explore the simple observation that a Markov chain with values a finite space $M = 1, ..., m$, $m \geq 2$, has many different extensions to a compatible n-point Markov chain in M^n , for all $1 < n \leq m$. Embedding this phenomenon into the context of stochastic (Lévy) flows of diffeomorphisms in Euclidean spaces, we introduce the notion of a n-point bifurcation of a stochastic flow. Roughly speaking an n-point bifurcation takes place, when a small perturbation of the stochastic flow does not change the characteristics at lower level k-point motions, $k < n$, but does change at the level of n-point motion. We illustrate an algorithm for the detection of the precise level of an n-point bifurcation and a combinatorial formula for the dimension of the vector space of compatible extensions for flows of mappings on M.

Data: 07/05/2021 - 11:00 (GMT-3) - Via Zoom - Meeting ID: 984 0703 0834 - Passcode: 753456

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