

A brief overview on a method to construct non-linear Markov process.

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Abstract: This talk consists of two parts. The first part is devoted to present a general method to construct non-linear Markov processes and semigroups via SDEs driven by non-linear Levy noise. This approach was proposed in [1] and consists of exploring the link between non-linear Markov semigroups and the so called kinetic equations of statistical mechanics and evolutionary biology that describe the dynamic law of large numbers for Markov models of interacting particles. The second part focuses on path dependent kinetic equations. In particular, we will discuss the results presented in [2].

Referencias

- [1] Kolokoltsov, V. N., **Nonlinear Markov processes and kinetic equations**, Cambridge University Press, Cambridge, 2010.
- [2] Kolokoltsov, V. N. and Yang, W., **Existence of solutions to path-dependent kinetic equations and related forward-backward systems**, Open Journal of Optimization, 2, 39-44 (2013).