Seminário de sistemas dinâmicos e estocásticos

Departamento de Matemática - IMECC - UNICAMP

An approach for integrating a class of multiplicative-noise S(O)DEs under non-standard assumptions

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Resumo:

A significant number of Stochastic Differential Equations (SDEs) that model noisy systems are driven by linear multiplicative-noise diffusion coefficients. Unfortunately, many of the available integrators assume restrictive assumptions that typically are not satisfied by SDEs in applications. In this talk, we propose an approach, based on the conjugacy between the underlying SDE and a suitable Random Differential Equation, which allows constructing new integrators that remarkably avoid the afore mentioned restrictive assumptions. The properties of the resulting methods are analyzed and the performance of the proposed approach is tested in a number of examples.

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