

Unité de probabilités

Séminaires programmés

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french only

Conférence en probabilité

Mardi 23 juin 2009 à 16h15
[MA A1 12](#), EPFL, Ecublens

[Prof. Max-Olivier HONGLER](#)

[EPFL-STI](#)

Stochastic Differential Equations Driven by Ballistic Super-Diffusive Noise

Résumé

We study stochastic differential equations driven by non-Gaussian noise processes exhibiting a ballistic (also called super-diffusive) variance (such as $t + b t^2$, where t is time and b is a constant). Our driving noise source can be viewed as a lumped Markov process involving two oppositely drifted Brownian motions. For such a noise source, one is able to derive explicit results for a wealth of stochastic models ranging from off-equilibrium statistical physics, optimal stochastic control and sequential stochastic optimization. Illustrations of noise-induced spatio-temporal patterns in arrays of coupled phase oscillators and additive noise-induced phase transitions will be explicitly discussed.

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