

From Martingales in Finance to Quantization for pricing

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After a short introduction on the importance of martingales in Finance, we will focus on stochastic volatility models used to model the evolution of prices in financial markets and on one possible discretization procedure, the so-called quantization. Quantization algorithms have been recently successfully adopted in option pricing problems to speed up Monte Carlo simulations thanks to the high convergence rate of the numerical approximation. In particular, recursive marginal quantization has been proven a flexible and versatile tool when applied to stochastic volatility models. In this talk we will present an overview of recent achievements on the discretisation of stochastic volatility models, via numerical results in option pricing and by assessing the theoretical approximation errors.