Convergence of Quadratic Variation of Gaussian Markov Processes with Application to Option Pricing Theory

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I will discuss the development, testing, and implementation of a less restrictive alternative to the Black-Scholes model for pricing derivatives. By relaxing the assumption of past independence but retaining the Markovian property, we are able to develop a less restrictive but equally efficient model. This is achieved by replacing Black-Scholes' underlying process, Brownian motion, with a certain Gaussian Markov process.