

Mean-variance hedging for additive processes via Malliavin calculus

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Hedging problem for contingent claims in incomplete markets is a centerpiece of mathematical finance. Actually, many hedging methods for incomplete markets have been suggested. Above all, we focus on mean-variance hedging (MVH), which has been studied very well for about three decades. First of all, we shall derive an explicit closed-form representation of MVH strategies for exponential additive models using Malliavin calculus for Levy processes. Next, we introduce a simple FFT-based numerical method for exponential Levy models, and illustrate some numerical results.