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Variance Swap for Local Lévy based Stochastic Volatility with Delay

The valuation of the variance swaps for local Levy based stochastic volatility with delay (LLBSVD) is discussed in this talk. We provide some analytical closed forms for the expectation of the realized variance for the LLBSVD. As applications of our analytical solutions, we fit our model to 10 years of S&P500 data (2000-01-01–2009-12-31) with variance gamma model and apply the obtained analytical solutions to price the variance swap. This is a joint talk with K. Malenfant.