

We illustrate how to compute local risk minimization (LRM) of call options for exponential Lévy models. Here, LRM is a popular hedging method through a quadratic criterion for contingent claims in incomplete markets. Arai & Suzuki (2015) have previously obtained a representation of LRM for call options; here we transform it into a form that allows use of the fast Fourier transform (FFT) method suggested by Carr & Madan (1999). Considering Merton jump-diffusion models and variance gamma (VG) models as typical examples of exponential Lévy models, we provide the forms for the FFT explicitly; and compute the values of LRM numerically for given parameter sets. Furthermore, we illustrate numerical results for a variance gamma model with estimated parameters from the Nikkei 225 index. After that we discuss the differences of LRM and delta hedging strategies, in exponential Lévy models, where delta hedging strategies in this paper are defined under the minimal martingale measures (MMM). We give inequality estimations for the differences of LRM and delta hedging strategies, and then show numerical examples for the two typical exponential Lévy models, Merton models and VG models.