Mathematical aspect of the Fourier series method for volatility estimation

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(Abstract) For its immense importance in practical stage of finance theory, the study on estimation technique of the volatilities has attracted the interests of so many researchers and there accumulated a lot of literatures. Among them we concern with the numerical scheme proposed by P.Malliavin and M.Mancino [1]. Their method is based on a mathematical study of the estimation problem which shows a beautiful coupling of the theory of Fourier series with the Itô theory on stochastic calculus. In this talk, based on our recent results ([2],[3]) in the study of stochastic Fourier transformation, we intend to give another theoretical inspect about their scheme.

References

