

Sergey Nadtochiy: “Local Volatility Dynamic Models” (with Rene Carmona)

Abstract:

We discuss the characterization of arbitrage free dynamic stochastic models for the equity markets with a (infinite) set of basic instruments (European type options). Prices of the financial instruments are represented through local volatility, which is then given dynamics through Ito stochastic differential equation on a Banach space. The main thrust of our work is to characterize absence of arbitrage in these models and to parameterize them in a convenient for implementation way.