

Multiscale Stochastic Volatility Models and Perturbations Methods

Jean-Pierre Fouque
University of California

We will review recent work, joint with G. Papanicolaou, R. Sircar, and K. Solna, on stochastic volatility models driven by two volatility factors running on separated fast and slow time scales. Using singular and regular perturbations methods, we show how to approximate option prices and how to calibrate the relevant parameters on the implied volatility surface.