

Title: Efficient Fitting of Stochastic Volatility Models

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The stochastic volatility model is a popular tool for modeling the volatility of assets. The model is a nonlinear and non-Gaussian state space model. Most approaches use intensive numerical techniques that present challenges not seen in general. Bayesian approaches use Markov chain Monte Carlo (MCMC), but convergence and mixing problems plague MCMC algorithms used for the model. We present an approach that ameliorates the slow convergence and mixing problems when fitting stochastic volatility models. The approach accelerates the convergence by exploiting the geometry of one of the targets. We demonstrate the method on various numerical examples.