SV model

**Model:**

**Likelihood ():**

**Prior distribution:**

**Posterior distribution:**

Where:

Where:

**This is a special distribution, but can be sampled by using the AR (Acceptance-Rejection) algorithm or the AR-MH (Acceptance-Rejection Metropolis-Hastings) algorithm.**

**Sampling of volatility:**

The conditional posterior distribution of the parameters（）of the SV model can be obtained by adding latent variables to the conditions and sampling from them. Therefore, to apply the Gibbs sampler, the latent variables should be treated as parameters in the same way as ().

There are three sampling methods for h proposed so far: single-move sampler, multi-move sampler and mixture sampler.

**single-move sampler:**

When :

When :

When :

Where

Then