Table 1: Examples of the stochastic volatility processes with their corresponding SDEs. Here, v_t is the volatility with initial value $v_0 > 0$, $\alpha = \frac{1}{2} - H \in (0, 1/2)$ and $\kappa, \theta, \sigma, \eta \in \mathbb{R}$.

Model Name	Stochastic Differential Equations
OU uhlenbeck1930	$dv_t = \kappa(\theta - v_t)dt + \eta dW_t$
mGBM jaber2025	$dv_t = \kappa(\theta - v_t)dt + (\eta + \sigma v_t)dW_t$
rHeston euch2019	$v_t = v_0 + \int_0^t K(t-s)f(v_s)ds + \int_0^t K(t-s)g(v_s)dW_s,$ $K(t-s) = \frac{(t-s)^{-\alpha}}{\Gamma(1-\alpha)}, \quad f(v_s) = \kappa(\theta - v_s), \quad g(v_s) = \sigma\sqrt{v_s}$
rBergomi bayer2016	$v_t = v_0 \exp\left(\eta \int_0^t (t-s)^{-\alpha} dW_s\right)$