

[Source](#) | [Model](#) | [Option](#)  
[Model\\_Option](#) | [Help on mc methods](#) | [Archived Tests](#)

## mc\_alfonsi\_bates

The evolution process of the Heston model, for the stochastic volatility, and Merton model, for the jumps, is:

$$\begin{cases} \frac{dS_t}{S_t} &= (r - d)dt + \sqrt{V_t}dW_t^1 + (e^J - 1)dN_t \\ dV_t &= \kappa(\theta - V_t)dt + \sigma_v\sqrt{V_t}dW_t^2 \\ S(t=0) &= S_0 \\ V(t=0) &= V_0 \end{cases}$$

where  $d < W^1, W^2 >_t = \rho dt$  and  $J \sim N(m, v)$ .

Description of the algorithm is given in [there](#)

## References