mc_andersen

Input parameters

• Number of iterations N

• Number of discretization steos M

• Generator type

• Increment inc

• Confidence Value

Output parameters

• Price P

• Error price σ_P

• Delta δ

• Error delta σ_{delta}

• Price Confidence Interval: ICp [Inf Price,Sup Price]

• Delta Confidence Interval: ICp [Inf Delta,Sup Delta]

Description

Computation of a european option in the Heston stochastic volatility model. This model is given by,

$$dS_t = (r - q)S_t dt + \sqrt{v_t} S_t dW_t^1,$$
$$dv_t = k(\theta - v_t)dt + \sigma\sqrt{v_t} dW_t^2,$$

where W^1 and W^2 are two correlated brownian motions with $\langle W^1, W^2 \rangle_t = \rho t$, and k, θ and σ Description of the algorithm is given in there

References