
Subject: Solving equation with Monte Carlo simulation

Posted by [zanotti](#) on Mon, 18 Jan 1999 08:00:00 GMT

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Hi,

I'm looking for a Monte-Carlo programm (C, Fortran, IDL...) that could be used to solve the following problem:

$$F(w) = \text{Integration}(G(w,u) \cdot H(u), u = -\infty, +\infty)$$

The functions $F(w)$ is known numerically.

$G(w,u)$ is of the form:

$$G(w,u) = \text{Sigma}(u) \cdot \exp\left(-\frac{1}{\text{sigma}(u)^2} \cdot (w + \text{delta}(u))^2\right)$$

where $\text{Sigma}(u)$ and $\text{delta}(u)$ are two functions of u .

The problem is to find numerically, $h(t)$, the Fourier transform of H .

It seems difficult to apply the convolution theorem.

If someone has experience, information or a clever idea on the way to solve this sort of problems, please tell me,

Thank you.

JMarc
