Subject: Solving non linear systems (Integral Equations)
Posted by francesca_terenzi on Thu, 07 Jul 2005 18:49:48 GMT
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Hi Folks, Dr. Fanning suggested me to write to this newsgroup and see if someone of you can help me...

I'd like to solve (with IDL) a non linear problem of the kind:

x(t)-y(t)=I(t),

where:

-x(t)=known time series
-y(t)=unknown //

-I(t)=I(y(t))=[f(y)*G](t) is the convolution of a function f (which is an implicit function of y) with a Green's type of function (assumed to be known).

-The time t belongs to a certain range.

For a number of resons, I wanted to try to solve this using the Newton's Method. I am not sure if this is the best way (if not, maybe someone of you can tell me), and supposed it is an ok method, I am not sure how to practically use the built in NEWTON routine in IDL as my unknwon y is implicitally contained also in the integrand....

I would appreciate if some of you can help me
Best Regards
Francesca

p.s. Please, let me know if I was not clear, or if I gave too little details. I tried to be as short as possible in this first document...