Subject: Re: Help Wanted: IDL Math Expert
Posted by David Ritscher on Wed, 20 Aug 1997 07:00:00 GMT
View Forum Message <> Reply to Message

Brad Gom wrote:
> I'm assuming that the data has no error.
...

> To be more precise, my data is described by x(t)=sqrt(F/G) and
> y(t)=sqrt(FG)
> where F=a*((t^2)/b - t) and G=c*exp(sqrt(d/t))
> I want the values of a,b,c, and d

> I thought the following might work:
> 1. estimate parameters
> 2. calculate both x(t) and y(t) for range of t
> 3. compute difference between [x(t) vs y(t)] and the raw data
> 4. adjust parameters and return to 2. until fit

> I could easily write this code except for step number 4. Would it be
> possible to modify the curvefit
> procedure to perform this step? I'm hoping I don't have to take a course
> on nonlinear curve fitting to
> solve this problem.

Perhaps I'm missing something here, but it seems like you'd just want
to detangle the two functions, which is trivial, in the noiseless
case, with the following calculations:

F = x(t) * y(t)
G = y(t) / x(t)

Then you do the two straight-forward fittings.

I hope this helps,

Regards,

David Ritscher

--
David Ritscher
Zentralinstitut fuer Biomedizinische Technik
Albert-Einstein-Allee 47 Tel: +49 (731) 502 5313
Universitaet Ulm Fax: +49 (731) 502 5315
D-89069 ULM david.ritscher@zibmt.uni-ulm.de

Germany