Subject: Re: Help Wanted: IDL Math Expert Posted by David Ritscher on Wed, 20 Aug 1997 07:00:00 GMT

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## **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

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