
Subject: Re: Minimization: Determine a constant across data sets

Posted by on Fri, 06 Apr 2012 09:43:33 GMT

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Den fredagen den 6:e april 2012 kl. 04:42:40 UTC+2 skrev Justin:

> Hi all!

>

> I have several data sets that follow the form:

>

> $\text{data} = A * e^{(-t/t_0)} + y$

>

> I suspect EVERY data set to have the same t_0 , but different A & y values. (ie:
(A1,y1),(A2,y2)...))

> I can use MPFITFUN to fit A, t_0 and y, but the routine determines a least chi-squared such that
 t_0 is different for every data set.

>

> It would seem simple enough to fix t_0 in MPFITFUN if I knew what the value was beforehand,
but I don't :) Is there a way to minimize t_0 across several data sets such that A & y are allowed to
vary, but t_0 is tied to every data set?

Sounds like you could describe your problem something like this:

`data = [data1, data2, data3, ...]`

`model = [A1*e^(-t,t0)+y1, A2*e^(-t/t0)+y2, A3*e^(t/t0), ...]`

If you code the model MYFUNCT with the parameter array interpreted as

`p[0,1,2,3,...]=[t0,A1,y1,A2,y2,...]`

you should be able to keep using mpfitfun.

/Mats
