Subject: Re: Minimization: Determine a constant across data sets
Posted by Craig Markwardt on Sun, 08 Apr 2012 03:05:13 GMT
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On Friday, April 6, 2012 5:43:33 AM UTC-4, Mats Löfdahl wrote:
> 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:
>>
>> data = A* e^(-t/t0)+ y
>>
>> I suspect EVERY data set to have the same t0, but different A & y values. (ie: (A1,y1),(A2,y2)...)
>> I can use MPFITFUN to fit A,t0 and y, but the routine determines a least chi-squared such that t0 is different for every data set.
>>
>> It would seem simple enough to fix t0 in MPFITFUN if I knew what the value was beforehand, but I don't :) Is there a way to minimize t0 across several data sets such that A & y are allowed to vary, but t0 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.

Yep, what Mats said.

MPFIT and MPFITFUN don't care how many data sets you are fitting. Just concatenate the two data sets and the two model functions. (and the hardest part is managing all of the parameters.)

Craig Markwardt