
Subject: Minimization: Determine a constant across data sets

Posted by [Justin Cantrell](#) on Fri, 06 Apr 2012 02:42:40 GMT

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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?

I tried doing this in grids, but it was very computationally time consuming to search an unknown gridspace of t_0 in an double for loop.

Thanks!

Justin
