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Subject: Re: Non linear fit with more than 2 dimensions!, does mpfit work?

Posted by [Craig Markwardt](#) on Thu, 12 Apr 2012 12:45:34 GMT

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On Thursday, April 12, 2012 12:57:04 AM UTC-4, Steve Daal wrote:

> IDL-ers,

>

> I have a complex fitting problem that I am tackling. my model function

> has the form:

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>  $Y(n+1) = A(1 - \exp(C*Y_n)) * [X(n+1)/\exp(D-X_n - Y_n)]$

>

> where  $Y_n$  and  $X_n$  refer to some values at time= n, and  $Y(n+1)$ ,  $X(n+1)$

> refer to updated values at time =n+1. A,B,C, and D are the parameters

> of the fit.

>

> I am aware of mpfit and I think this is doable if I have  $Y_n$  and  $X_n$

> only, but I am really puzzled with the existence of the n+1 terms.

The answer is that MPFIT doesn't care about the dimensionality of the problem. It just wants a list of residuals to minimize. That goes for the dimensionality of both your \*de\*pendent and \*in\*dependent variables.

It's not clear if you want to do a new fit, every time a new N+1 data set arrives. Or, if you want to do a global fit of all data points at once.

It sounds like you may need to do a FOR loop to evaluate your function. So be it. First focus on getting a correct answer, then worry about speed later.

Craig

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