
Subject: Re: mpfit: multivariate fit
Posted by [Craig Markwardt](#) on Mon, 21 May 2007 06:13:13 GMT
[View Forum Message](#) <> [Reply to Message](#)

Richard, you sent me your code off-line.

Yes, there was an obvious problem, which is that your derivatives were computed from $d(\text{MODEL})/d(P[i])$.

However, the "user" function for MPFIT is always $(\text{DATA}-\text{MODEL})/\text{SIGMA}$ [*]. This means that the derivative is actually $[-d(\text{MODEL})/d(P[i])]/\text{SIGMA}$. When I inserted a negative sign in your derivatives, the fit then turned out fine.

Craig

[*] - This is true whether the user function is regular or "(EXTERNAL)".

"Richard G. French" <rfrench@wellesley.edu> writes:

> On the subject of MPFIT, I'm trying to implement the '(EXTERNAL)' function
> option (the case where the user does not supply a function to be called by
> MPFIT itself, but is expected to supply function values and a jacobian
> matrix in each call to MPFIT). I'm trying to do this with a very simple
> polynomial function for which the partial derivatives are very easy to
> compute, but the fitted parameters are not the correct values, the number of
> degrees of freedom returned is a negative number, and in general I am
> clearly not getting things to work.
>
> In trying to debug this, I found what looks like an undocumented keyword:
> EXTERNAL_INIT whose purpose is a bit obscure to me. I tried fiddling with
> this but it did not fix the problem
>
> Does anyone (Craig or someone else) have a simple example of MPFIT that uses
> the EXTERNAL option? If so, I'd be grateful if you would send it along. If
> not, then I can post my failing example so that someone can tell me what I
> am doing wrong.
>
> Thanks very much.
>
> Dick French
> rfrench@REMOVEwellesley.edu
>

--

Craig B. Markwardt, Ph.D. EMAIL: craigmnet@REMOVEcow.physics.wisc.edu
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response
