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Subject: Re: MPfit question

Posted by [Craig Markwardt](#) on Thu, 02 Oct 2008 15:59:50 GMT

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Wox <nomail@hotmail.com> writes:

>

> Ah yes, I see now. Thanks for your comments. I must say it's quite an  
> impressive and complicated piece of code. I'm having a hard time  
> understanding the convergence criteria and the calculation of the  
> LM-step. Can you recommend some reference where I can find more  
> details? I sure have some books explaining NLLS-refinement but they  
> don't seem to mention some of the criteria I see in your code. Also  
> the calculation of the LM-step is done differently each time I open a  
> new book :-).

Hi, the code is based on MINPACK-1, so the convergence criteria come from that library. The references section of mpfit.pro contains two citations by one of the primary authors of MINPACK. Unfortunately they are hard to find. :-(

I am suspecting that for your problem, MPFIT is claiming the problem converged when it didn't, if the "actual" change in  $\chi^2$  is much smaller than "predicted". The only real way I can see this happening is if you started a parameter \*very close\* to a boundary but not exactly on the boundary. The fix for that should be obvious.

Craig

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