Subject: Re: MPfit question
Posted by Wox on Thu, 02 Oct 2008 11:39:19 GMT
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On 01 Oct 2008 13:16:10 -0400, Craig Markwardt
<craigmnet@REMOVEcow.physics.wisc.edu> wrote:

>
> Wox <nomail@hotmail.com> writes:
>
>> On 30 Sep 2008 11:49:46 -0400, Craig Markwardt
>> <craigmnet@REMOVEcow.physics.wisc.edu> wrote:
>>
>>> If you look at the code, the value of ALPHA is adjusted so that, at
>>> the next iteration, a parameter will exactly touch its boundary,
>>> within a small tolerance. At that point, the parameter will be
>>> considered fixed, and will no longer enter into the calculation of the
>>> value of ALPHA. [*] Thus, the step *is* adaptive, it just doesn't
>>> happen in a single iteration.
>>
>> I'm sorry, but I don't see how it does this. ALPHA is adjusted and
>> immediatly used (see below). In the next iteration, the increments are
>> calculated again by mpfit_lmpar and used again to calculate ALPHA,
>> whether the param was at the limit in the previous iteration or not.
>
> That is not correct. Please search for 'zeroing the derivatives of
> pegged parameters'. Once a parameter is pegged at a boundary in the
> previous iteration, it no longer contributes to the congugate gradiate
> solution because its derivatives have been zeroed.

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 :-).