Subject: Bug fix for MPFITFUN (and MPFIT)
Posted by Craig Markwardt on Fri, 07 Sep 2007 04:24:07 GMT
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Greetings folks--

I have published a bug fix for MPFITFUN. This bug fix only applies if you are computing explicit derivatives.

The problem was that the derivatives were not being weighted by the data uncertainties, and that can lead to very slow convergence. The bug fix now causes the derivatives to be weighted.

In a related issue, the documentation of MPFIT has been corrected, also regarding explicit derivatives. The required sign of the derivatives was documented incorrectly. It turns out that because of an implementation quirk, the sign of the derivative must be the *opposite* of the expected one. I have tried to document this carefully now. I won't correct the behavior of the program at this stage, because that would be backward-incompatible.

Anybody who tried to use the previously "documented" definition would have experienced non-converging fits, and they would have corrected it.

In an earlier discussion on the group, Dick French asked about the sign convention for derivatives, and while I gave him the correct information for his uber-special case (using "(EXTERNAL)" function evaluation), it was incorrect for the common case. Sorry about that.

Yours,
Craig

The fitting routines can be found here:
http://cow.physics.wisc.edu/~craigm/idl/fitting.html

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Craig B. Markwardt, Ph.D. EMAIL: craigmnet@REMOVEcow.physics.wisc.edu
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