
Subject: Bug in MPFIT found

Posted by [Craig Markwardt](#) on Mon, 24 Nov 2003 02:05:26 GMT

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Greetings--

I don't normally post updates to my web page these days. On the other hand, there are enough users of MPFIT that this is a good venue to publish information about a bug that has been publicly corrected today.

The bug probably affects all one parameter fits. Users should download a new version of MPFIT. It is likely that all single-parameter fits (or fits with a single varying parameter) will either fail, or converge extremely slowly.

Bug details: the problem is in the way that MPFIT_LMPAR estimates the parameter update for the next iteration. If there is only one free parameter, then several logical steps are erroneously skipped. This also applies if there are multiple parameters but only one is free; or if all but one parameter is pegged at a limit. The workaround is to download a new version of MPFIT. The vital change is on new line 1631, where

if nsing GT 1 then begin
should be changed to
if nsing GE 1 then begin ;; NOTE change to "GE"

Please see:

<http://cow.physics.wisc.edu/~craigm/idl/idl.html> (under curve fitting)

I apologize for how long it took to find this error. Happy fitting!

Yours,
Craig

P.S. Thanks to Peter Tuthill for pointing out the right test case.

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