Subject: Re: LMFIT
Posted by Craig Markwardt on Mon, 13 Dec 1999 08:00:00 GMT
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"Alberto Verga" <verga@marius.univ-mrs.fr> writes:
> I tried the following example on the use of LMFIT given in the IDL 5.2
> help:
>
> ...example removed...
>
> I obtained
> % LMFIT: Warning: Failed to Converge.
>
> and in consequence a bad fit!
> Does anyone known if this LMFIT is correctly implemented?

"Correct" is a matter of debate. Designing an algorithm for curve fitting appears to be as much art as it is science. The procedures supplied by IDL are somewhat of a mixed bag:

CURVEFIT - quick and dirty. Quick because it runs fast. Dirty, perhaps, because it doesn't always converge. The best if judged in EASY and SPEED categories.

LMFIT - slow and dirty. Slow because function calls are done in FOR loops (astounding!). If there are convergence problems, it's probably because LMFIT is based on Numerical Recipes.

I recommend you try MPFIT and related functions (web page below). I have translated these from the original MINPACK-1 package, which was designed by a real numerical analyst! I value reliability more than absolute speed and was willing to make a compromise.

I have found the results to be very reliable in my own work, and I have gotten similar comments from other researchers. For your application I clearly recommend MPFIT and the driver function MPFITFUN.

Craig
http://cow.physics.wisc.edu/~craigm/idl/idl.html

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