Subject: Re: mpcurvefit vs. a matlab fitting technique Posted by sheilakanani on Tue, 22 Jul 2008 10:55:46 GMT

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- > But if I change the input even slightly eg [9.4,0.24,0.77,-1.5]
- > I get totally different values out, eg [7.7098139, 0.19333284,
- > 0.60223838, -0.85758867]

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Sorry, typo, this should read:

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Subject: Re: mpcurvefit vs. a matlab fitting technique Posted by Vince Hradil on Tue, 22 Jul 2008 13:12:47 GMT View Forum Message <> Reply to Message

On Jul 22, 5:55 am, sheilakan...@googlemail.com wrote:

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I have found the mpfit routines to be quite good at minimizing square errors. There are a lot of "tweaks" one can use, such as step-size, to help the routines avoid local minima - take a look at the parinfo keyword.

I will also depend a lot on the equation that you are fitting. Perhaps the variables are slightly "mixed", or the numerical derivatives are ill-conditioned (is that the right term?). If possible, one can also use analytical derivatives with the mpfit functions, which might help.

Subject: Re: mpcurvefit vs. a matlab fitting technique Posted by R.G. Stockwell on Tue, 22 Jul 2008 16:46:46 GMT View Forum Message <> Reply to Message

<sheilakanani@googlemail.com> wrote in message news:117be385-ff64-4b09-9a74-7b053fe3ee31@m36g2000hse.google groups.com...

> Hi there,

>

- > I am trying to run an IDL program using mpcurvefit. The same program
- > was written in Matlab and used Isqcurvefit for the fitting. I am
- > having some serious issues with mpcurvefit (although it is better than
- > the IDL curvefit!) and was hoping you can help me resolve these
- > issues.

>

- > I put 4 coefficients into the fitting routine then mpcurvefit "spits"
- > out the fitted values for these coefficients. However, the program is
- > not stable at all. For example

>

- > If I put [9.4,0.24,0.77,-1.5]
- > into the routine
- > I get [ 9.538911, 0.15903937, 0.72624838, -1.3497545] out.

>

- > But if I change the input even slightly eg [9.4,0.24,0.77,-1.5]
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What are the results with matlab for these two inputs?
And i'd also suggest doing about 100 other cases, for both IDL and matlab, to get some measure of the stability if your systems.
Are both solutions iterating the same number of times, is one of the algorithms hitting it maxint limit? what are the step sizes of the iterations etc.

Use double precision everywhere )are there implicit floats in the idl code?).

Since we don't know what you are fitting it is hard to say anything mroe.

Cheers, bob

Subject: Re: mpcurvefit vs. a matlab fitting technique Posted by Craig Markwardt on Thu, 24 Jul 2008 04:07:21 GMT View Forum Message <> Reply to Message

sheilakanani@googlemail.com writes:

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This person also sent me a private email, which I replied to. Here is what I wrote:

Without more information, I can offer only a few suggestions. First of all, the different fit parameter sets you described \*may\* be a good fit. MPFIT stops iterating when it achieves it tolerances, and cant know how the previous fit did. If both are good fits, then that tells you something about your model. Some other ideas about parameter convergence are here:

http://cow.physics.wisc.edu/~craigm/idl/fitqa.html#parstep

It may be that you need to set PARINFO.STEP for some parameters.

Craig	
,	EMAIL: craigmnet@REMOVEcow.physics.wisc.edu Derivatives   Remove "net" for better response