
Subject: Re: NaN & mpfit question..

Posted by [David Fanning](#) on Mon, 30 Oct 2006 01:08:42 GMT

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D.Kochman@gmail.com writes:

- > So is there something else that I'm missing? dg.file1 is the one that
- > ends up getting returned to mpfit.pro at the (y-f)/err

It would help to know the min and max values of your X array, and what type of model you are trying to fit. Is it a log or exponential function? Are there any negative values in your X array? Etc.

Cheers,

David

--

David Fanning, Ph.D.

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Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: NaN & mpfit question..

Posted by [Craig Markwardt](#) on Tue, 31 Oct 2006 17:15:50 GMT

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"D.Kochman@gmail.com" <D.Kochman@gmail.com> writes:

- > I understand this is fairly well covered territory, however, I couldn't
- > find a solution by searching through the archives.
- >
- > Anyways, as I call mpfit.pro, it goes into an infinite loop where I can
- > only break it using the ctrl+break. I was curious as to what was
- > causing this and it just keeps cycling with the same number values for
- > the parameters, and Chi-Squared=NaN

MPFIT should max out at 200 iterations by default. You can change this with the MAXITER parameter.

- > So this got me thinking that somehow I was giving mpfit an array with
- > NaN, but I can't figure out where. I even tried a hackish type thing
- > to force NaNs to be zero, but still no luck.

The public version of MPFIT checks all input for NaNs and infinite numbers, and quits if it finds any. This suggests that the NaN is arising within MPFIT. One possibility is that the finite differencing

algorithm for computing derivatives is failing. In that case, you may have to set the derivative parameters (STEP, RELSTEP) manually.

Like any debugging operation, take the process in steps. First see if the model function itself is producing NaNs by itself. Then try fitting one parameter at a time, and check whether that produces NaNs. Set !EXCEPT = 2 and see where the errors start. And so on.

> So is there something else that I'm missing? dg.file1 is the one that
> ends up getting returned to mpfit.pro at the (y-f)/err

What happens when (Y-F) and ERR are both zero?

Good luck!
Craig

--

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Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response
