Subject: MPFIT/MPFIT2DFUN (Markwardt)
Posted by endobeck on Fri, 22 Dec 2000 21:24:33 GMT
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I have one-dimensional x, y, and z arrays, with x & y being positions (independent variables), and z being an array of dependent variable values. All 3 arrays have the same number of elements.

I'd like to fit a function of two variables (a plane) to the data, and I've been trying to use MPFIT2DFUN. It seems I have to make the x & y arrays into 2-d arrays, but I am not clear as to why or how. Can someone fill me in?

Cheers,
Eli

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Subject: Re: MPFIT/MPFIT2DFUN (Markwardt)
Posted by Craig Markwardt on Sat, 23 Dec 2000 21:07:13 GMT
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Greetings!

The function MPFIT2DFUN is designed to fit gridded 2-dimensional data, ie an image.

However, the task you are asking, a scalar function of two variables, is not very hard to do with the standard MPFITFUN. I even cover it as a frequently asked question on my web page (hint, hint...).

What you want to do is make a *single*, *two*-dimensional independent variable consisting of both your X and Y data. MPFITFUN doesn't care that your independent variable is of different dimension than the dependent variable. Your new independent variable would be constructed like this:

```
XY = [[X],[Y]]
```

You would call MPFITFUN with XY as your independent variable, and Z as your dependent variable. You need to make sure that your user function can split this independent data array apart:

```
function myfunc, xy, p
  x = xy(*,0)
```

```
  y = xy(*,1)
  ... continue with calculations ...
end
```

Good luck,
Craig

endobeck@my-deja.com writes:

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