Subject: MPFIT question
Posted by j.coenia@gmail.com on Tue, 13 Jan 2009 19:33:35 GMT
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I'm fitting data to a gamma variate function using Craig Markwardt's MPFIT. This has been working great except for a chronic error message that occurs once every 50 fits or so:

MPFIT: Error detected while calling mpfitfun_eval:
MPFIT: Array dimensions must be greater than 0.
MPFIT: Error condition detected. Returning to MAIN level.
MPFITFUN: Error detected while calling mpfitfun_eval: Array dimensions must be greater than 0.
Attempt to subscript P with <INT (1)> is out of range.

My five parameters are getting lost. The parameters are first passed to MPFITFUN via the parinfo structure because some are constrained. Then the parameters are passed along by MPFITFUN to the user-supplied model function as a double array, p. When the error occurs, the p array has shrunk from five doubles to just one NaN, as you can see from the abbreviated output reproduced at the end of this post. The subscripting error happens when the user-supplied model function tries to subscript the suddenly nonexistent second element of p, which is supposed to have five parameters/elements (and had five elements at all previous iterations). This can happen during any MPFIT iteration, but usually around iteration 4.

Does anyone know what's going on? I checked to make sure that there are no NaN values in the data, and that my gamma variate model function is not producing any NaN values at any iteration. I have the latest version of the MPFIT library. I've just been catching the error and fitting the problematic data with IDL's routine, but MPFIT does a much better job when it works for me. Hopefully someone else who has encountered this issue knows what I am doing wrong. Thanks.

```
Iter      1   CHI-SQUARE =       9182.7891        DOF = 353
P               DOUBLE    = Array[5]
.
.
Iter      2   CHI-SQUARE =       6448.4258        DOF = 353
P               DOUBLE    = Array[5]
.
.
Iter      3   CHI-SQUARE =       8402.1122        DOF = 353
P               DOUBLE    = Array[5]
.
.
Iter      4   CHI-SQUARE =       1564.3159        DOF = 353
```

P DOUBLE = Array[5]
.
.
MPFIT: Error detected while calling mpfitfun_eval:
MPFIT: Array dimensions must be greater than 0.
MPFIT: Error condition detected. Returning to MAIN level.
P DOUBLE = NaN
Attempt to subscript P with <INT (1)> is out of range.
