
Subject: Re: regression with error bars

Posted by [Craig Markwardt](#) on Sat, 22 May 2010 15:02:16 GMT

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On May 22, 9:34 am, Meagan A. <u...@compgroups.net> wrote:

> Hello,

>

> Thank you for your reply and examples. I am a newbie to IDL and I've never used MPFIT. I read the tutorial from this website:<http://cow.physics.wisc.edu/~craigm/idl/mpfittut.htm> I

>

> and I wrote a pro to fit a line to x and y if we had errors in y only (+/-):

>

> pro test

>

> xval = [1,2,3,4,5]

> yval = [1.2,1.9, 3.1, 4.5, 5]

> errval = [0.1,0.001,0.1,0.05,0.2]

>

> expr = 'P[0]+P[1]*X' ;line y=A+Bx

>

> result = MPFITEXPR(expr, xval, yval,errval)

>

> plot, xval, yval, psym=2

> oplot, xval, result[0]+result[1]*xval

>

> l=linfit(xval, yval) ;no errors considered

> oplot, xval, l[0]+l[1]*xval, linestyle=1

>

> end

>

> Are the error values (errval) used in this way in the function MPFITEXPR? And if not, after I calculate the residuals using your method, how do I feed it into the function MPFITFUN ?

There are several MPFIT* functions. You can't use MPFITFUN or MPFITEXPR because you are changing the standard definition of "residual" because you have different + and - error bars. Instead you will need to use the core engine MPFIT(), and you will need to write a user function like I described in my previous post.

Craig
