Subject: Re: How to determine the WEIGHTS in MPFITFUN for distribution function fit?
Posted by Vince Hradil on Thu, 06 Sep 2007 13:52:50 GMT
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On Sep 6, 2:54 am, "dux...@gmail.com" <dux...@gmail.com> wrote:
> I have a set of data and want to use a function to fit its
> distribution function.
> I have downloaded the procedure MPFITFUN and MPFIT.
>
> The data set is divided into many bins by a binsize.
> X is the mean value of the data point in each bin, and Y is the
> statistical count (or normalized) of the data point in each bin.
>
> Then I want to use the function 'myfunt' to fit the X and Y, and
> compute the parameter P for 'myfunt'.
> For example: p = mpfitfun ('myfunt', X, Y, Yerror, start)
> But I do not konw how to determine Yerror.
> If Yerror is set to unity, the 1-sigma errors for the estimated
> parameter P cannot be returned correctly from MPFITFUN.
>
> Best regards,
> jdu

Boy, that's a good question ... Here are some questions for you.
How do you measure the counts? How sure are you of the number of counts?
If they are truly counts, the errors may be Poisson distributed, yerr ~ 1/y. Have you tried this?
Are you really interested in the standard errors of the parameters, or just the parameters? The estimate of the parameters is fairly robust with mpfitfun, so the P values are good estimates regardless of the estimated error.

If you can't estimate the 1-sigma errors for Y you could always use the bootstrap to estimate the P-errors. I've found this very helpful - and really easy to do.