Subject: Re: Fitting a Gaussian to an "unleveled" histogram: Interpreting the width
Posted by Craig Markwardt on Sat, 14 Feb 2015 23:06:54 GMT
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On Wednesday, February 11, 2015 at 7:52:09 PM UTC-5, Maryam wrote:
> Hello.
>
> I am trying to fit an inverted Gaussian function to a histogram that is higher at one end than the other. I simply define a function that is a Gaussian with negative amplitude (plus a constant to shift the Gaussian up along the y-axis) and call that function using mpfitfun to get the fit. It all works out fine and I do get a fit that looks reasonable. However, I am not sure how to interpret the standard deviation returned by mpfitfun.

It really depends why the histogram is "higher at one end than the other." Is it because there is a sloping continuum or background level? If so, why not fit a constant plus linear term to the background instead of just a constant? Make your model more realistic and you will get more realistic parameter values. Make your model more synthetic, and your parameters will be meaningless.

CM