Subject: Re: How to calculate 3SIGMA in Linfit!
Posted by Craig Markwardt on Tue, 12 Jun 2012 14:53:03 GMT
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On Tuesday, June 12, 2012 3:07:40 AM UTC-4, dave poreh wrote:
> On Monday, June 11, 2012 6:25:35 PM UTC+2, Craig Markwardt wrote:
>> On Monday, June 11, 2012 3:51:50 AM UTC-4, dave poreh wrote:
>>> Dear folks
>>> hi,
>>> i want to calculate 3sigma in linfit function. sigma function just give me the SD and i could not do 3*sigma to get 3sigma. As far as i understood first i need to transfer data to normal function and then i find SD and 3SD=3sigma.
>>
>> I'm assuming you want to calculate a 3 sigma confidence limit. But of what? The slope coefficient? Offset coefficient?
>>
>> As far as I understand, 3 sigma is indeed usually 3 times the 1 sigma error estimate. When your fitting function is non-linear it gets more complicated, but yours is not-nonlinear.
>>
>> Craig
> I want to measure velocity of the time series that means i would have a velocity and +- 3sigma error.

Assuming:
* the errors are gaussian; (and uncorrelated)
* the data error bars are the correct size; and
* the linear function is a good model for the data;

then the formal parameter errors reported by LINFIT() will be an unbiased estimate of the true parameter errors. And the 3 sigma confidence limits will be the same as the 3 x (1 sigma) confidence limits.

If that is not occurring, then one of the assumptions above is not applicable.

Craig