Subject: Re: How to calculate 3SIGMA in Linfit!
Posted by Craig Markwardt on Tue, 12 Jun 2012 19:35:25 GMT
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On Tuesday, June 12, 2012 2:10:16 PM UTC-4, dave poreh wrote:
> On Tuesday, June 12, 2012 10:54:26 AM UTC-7, Craig Markwardt wrote:
>> On Tuesday, June 12, 2012 10:53:03 AM UTC-4, Craig Markwardt wrote:
>>> 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.
>>
>> As a practical matter, I recommend that you subtract the average time value (or center-time value) from the time column of your samples.
>>
>> The result returned from LINFIT() will then be mean position at the center time, and the mean velocity at the center time.
>>
>> If you don't subtract the mean time value, then that can introduce some nasty correlations between the slope and offset coefficients.
>>
>> Craig
> Thanks
> I have noticed that, and i thought it is a statistical matter. Why it is like that. Is this thing (subtracting mean()) some kind of normalization or what?

It's a correlation between parameters.

A linear fit has a slope term and an offset term, which is measured at the origin of the X axis. If the origin of the X axis is very far from the measured data positions, then a very small error in the slope will trigger a large error in the offset, and vice versa.