Subject: sigma values of polyfit and svdfitr
Posted by gunvicsin11 on Mon, 18 Mar 2013 06:26:09 GMT
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Hello everyone,
Please let me know how to use the sigma values and returned in polyfit and svdfit to find the fitting error. Its very important for my work.
Please help me out in this respect.
thanking you in advance,
sid

Subject: Re: sigma values of polyfit and svdfitr
Posted by gunvicsin11 on Mon, 01 Apr 2013 05:22:47 GMT
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On Monday, March 18, 2013 11:56:09 AM UTC+5:30, gunvi...@gmail.com wrote:
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> sid

Hello sir,
So if suppose I am fitting a guassian for a emission profile the (maximum value - fitted maximum) will give the fitting error.
am I correct.
Please let me know.
thanking you
sid

Subject: Re: sigma values of polyfit and svdfitr
Posted by Andy Sayer on Mon, 01 Apr 2013 15:53:57 GMT
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Going back to my first reply: what exactly do you mean by 'fitting error'? If you mean the difference between observations and fitted values, then yes, you will find it by looking at the difference between observations (input data) and fitted values (returned by yfit).

AMS

On Monday, April 1, 2013 1:22:47 AM UTC-4, gunvi...@gmail.com wrote:
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Subject: Re: sigma values of polyfit and svdfitr
Posted by gunvicsin11 on Tue, 02 Apr 2013 04:58:19 GMT
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On Monday, March 18, 2013 11:56:09 AM UTC+5:30, gunvi...@gmail.com wrote:
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Hello sir,
Fitting error in the sense error caused only due to fitting and no other errors are considered, like instrumental error.
My problem is I get sigma values(it is the uncertainty in the polynomial coefficients) very high. So I dont know how to use it to get the fitting error. So I thought I would take (the observed value - fitted value) that will give the fitting error.
Am I right in doing this?
thanking you
sid

Subject: Re: sigma values of polyfit and svdfitr
Posted by Phillip Bitzer on Tue, 02 Apr 2013 22:18:12 GMT
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The error in the parameters is not exactly the same as the "fitting" error. If you mean "how well does the model fit the data", there are several ways to measure this. One of the more common ways is to use the chi squared statistic. It's one of the output keywords to poly_fit. Chi squared is related to the difference between the input data and the modeled data.

There are a lot of places the assessment of how well a model fits a data set is discussed; two books on my shelf that do a good job addressing this is Data Reduction and Error Analysis by Bevington and Statistical Methods in the Atmospheric Sciences by WIlks.
