Subject: Re: Reduced chi-square goodness-of-fit statistic
Posted by pgrigis on Mon, 09 Feb 2009 00:45:41 GMT
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the reduced chi square is one if the error are accurate representation
of the errors in your data (with some assumption about their
distribution).
If you get chi-square much less than one, that means that you have
overestimated your errors.

Ciao,
Paolo

giorgosioanno...@gmail.com wrote:
> I got confused with the reduced chi-square goodness-of-fit statistic
> returned by the curvefit. Can anyone tell me what exactly this is? I
> had the impression that the fit is good when its value is near 1.
> However when I try to test it with some good fits I get really small
> values so I am not sure that what I thought is correct. For which
> values to we reject the good-fit hypothesis?
>
> In particular some of the data I have give me the following chi-
> square goodness-of-fit statistics after fitting them to a curve:
>
> chisq= 0.00018011358
> chisq= 0.00013042104
> chisq= 5.8597835e-005
>
> Are these good fits?
>
> And also what exactly is the unreduced chi-square goodness-of-fit
> statistic returned by the poly_fit and when do we reject the good-fit
> hypothesis there?
>
> Thanks,
> Giorgos

Subject: Re: Reduced chi-square goodness-of-fit statistic
Posted by giorgosioannou84 on Mon, 09 Feb 2009 15:59:39 GMT
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But I don't really have to do anything with the errors. I hust give
the data and the distribution, and IDL finds the parameters of the
best curve fit and returns the reduced chisq.

Subject: Re: Reduced chi-square goodness-of-fit statistic
Posted by lbusett@yahoo.it on Mon, 09 Feb 2009 17:06:52 GMT
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On 9 Feb, 16:59, giorgosioanno...@gmail.com wrote:
> But I don't really have to do anything with the errors. I hust give
> the data and the distribution, and IDL finds the parameters of the
> best curve fit and returns the reduced chisq.

Hi,

try to take a look at this:

http://www.dfanning.com/math_tips/sigma.html

Not an expert on this, but maybe your problem is the one explained at
the end of the page.

Hope this helps,

Lorenzo

Subject: Re: Reduced chi-square goodness-of-fit statistic
Posted by pgrigis on Mon, 09 Feb 2009 22:35:23 GMT
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giorgosioanno...@gmail.com wrote:
> But I don't really have to do anything with the errors. I hust give
> the data and the distribution, and IDL finds the parameters of the
> best curve fit and returns the reduced chisq.

In this case the absolute value of the reduced chi-square
is meaningless. You can still compare models (i.e. model
A "fits better" than model B if it has a lower chi-square in
the case of data with no error).

However, if your data is real world data, it will have
errors, and that is important information that you
should not neglect.

Ciao,
Paolo

Subject: Re: Reduced chi-square goodness-of-fit statistic
Posted by David Fanning on Tue, 10 Feb 2009 02:31:19 GMT

lbusett@yahoo.it writes:

> try to take a look at this:
>
> http://www.dfanning.com/math_tips/sigma.html
>
> Not an expert on this, but maybe your problem is the one explained at
> the end of the page.

I've been learning to use R this week. It's possible
IDL isn't the preferred software for this kind of
analysis. ;-)

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")