
Subject: Re: chisq value

Posted by on Mon, 16 Sep 2013 06:23:33 GMT

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On 2013-09-16 08:16, Mats Löfdahl wrote:

> On 2013-09-16 07:11, sid wrote:

>> Hello everyone,

>> I am trying to understand what is the chisq keyword

>> means in the routine,

>> poly_fit,

>> svdfit

>> linfit

>>

>> So I took a simple example, x=[1,2,3,4],y=[1,2,3,4]

>> when I give

>> p=poly_fit(x,y,1,chisq=c)

>> c= 1.14631e-30

>> p=svdfit(x,y,2,chisq=c)

>> c= 2.86139e-13

>> p=linfit(x,y,chisqr=c)

>> c=0.00000

>>

>> for poly_fit and linfit the definition of chisq is the same

>> "Set this keyword to a named variable that will contain the value of

>> the unreduced chi-square goodness-of-fit statistic"

>>

>> But the chisq values are different in both these cases even though the

>> inputvalues given are same.

>

> You example data makes a "prefect" fit, so the chisq values are mostly

> numerical precision errors. If you choose data that do not fit perfectly

> to a straight line, the results make more sense:

>

> IDL> x=[1,2,3,4]

> IDL> y=[1.1,2.0,3.3,3.9]

> IDL> p=poly_fit(x,y,1,chisq=c)

> IDL> print,c

> 0.0830000

> IDL> p=svdfit(x,y,2,chisq=c)

> IDL> print,c

> 0.0830001

> IDL> p=linfit(x,y,chisqr=c)

> IDL> print,c

> 0.0829998

>

>

>> Could anyone please let me know what this chisq fit actually means.

>

```
> Try this:
>
> IDL> p=linfit(x,y,chisqr=c,yfit=yfit)
> IDL> print,yfit
>      1.12000    2.09000    3.06000    4.03000
> IDL> print,total((y-yfit)^2)
>      0.0829998
```

And by "prefect", I mean "perfect". :o)
