## Subject: gaussfit question

Posted by mirko[1] on Fri, 29 Oct 1999 07:00:00 GMT

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Hi!

I have a 2D dataset representing a surface (intensity plot of x-ray scattering data)

and i like to fit these data with GAUSS2DFIT() function which does not work. So I tried to fit one line of the dataset wit GAUSSFIT which does not work either.

This it is confusing to me because other math computer programs have no problem with this simple curve. Is there something I have to consider?

Cheers

Mirko

IDL> y=[52.0,52.7,56.0,60.9,65.40,71.40, 75.20, 80.80,86.1,89.8,88.3,94.8,94.9,100.5,100.1,103.9,105.3,106.2,107.3, 108.2,106.1,105.7,107.8,102.2, 101.3,97.2,92.1,87.4,87.0,82.5,77.4,69.9,67.7, 62.1, 58.9, 53.4,53.8]

IDL> x=findgen(37)
IDL> yfit=gaussfit(x,y,a)

% Compiled module: GAUSSFIT.% Compiled module: POLY\_FIT.% Compiled module: CURVEFIT.

% Program caused arithmetic error: Floating underflow

Subject: Re: gaussfit question
Posted by mirko[1] on Mon, 01 Nov 1999 08:00:00 GMT
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## David Fanning wrote:

- > Why don't you continue on a bit and see if you
- > get the result you expect.

Yes I did. I have the feeling it was more or less my fault. From my data it is clear that the centre of the gaussian should be somewhere in the middle between 0 an 36 which is not the case here for a[1].

Doing an 'oplot, x,yfit' gives a nice fit but not the right solution to the problem (fitting a gaussian).

Using the estimates keyword and removing the linear and quadratic term results in the proper solution.

IDL> yfit=gaussfit(x,y,a, nterms=4,estimates=[90.0,20.0,10.0,10.0]) IDL> print,a 96.7115 18.2423 13.4573 10.8630

without ESTIMATES the starting values for the fit seem not close enough

IDL> yfit=gaussfit(x,y,a, nterms=4)
% Program caused arithmetic error: Floating underflow IDL> print,a
-35.3286 35.3296 3.44060 89.3350

Therefore I think I have to supply estimates to GAUSS2DFIT() in the case I like to fit an surface because this routine uses GAUSSFIT().

Thanks for the help

Mirko

Subject: Re: gaussfit question Posted by <karri on Mon, 01 Nov 1999 08:00:00 GMT View Forum Message <> Reply to Message

I got tired about these "Your program has an arithmetic underflow"-messages and reported them to RSI. They will remove them from version 5.3.

You can see this error message by writing

a=fft(shift(complexarr(128),0))

The message is complete nonsense. Try writing this procedure:

```
pro t
a=complexarr(128)
a=shift(a,0)
a=fft(a)
end
```

It will produce the same underflow error.

Now run it by typing it one line at a time. Voila! No error message.

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Regards,

Karri Kaksonen