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Subject: Re: GAUSS\_FUNCT problem

Posted by [Craig Markwardt](#) on Mon, 01 Mar 2004 09:13:50 GMT

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Michael Wallace <[mwallace.removethismunge@swri.edu.invalid](mailto:mwallace.removethismunge@swri.edu.invalid)> writes:

>> Well, I can half-heartedly defend the existing code. Note that if one  
>> supplies 5 or 6 terms (linear or quadratic background) then GAUSS\_FUNCT  
>> properly returns an array when  $A[2] = 0$ . In the case of 3 terms you  
>> are computing a function which only consists of a Gaussian with a sigma  
>> width of 0, which probably indicates that you have made an earlier  
>> mistake. So I don't begrudge GAUSS\_FUNCT returning an anomalous result.  
>

> I understand your point, however the documentation clearly states that  
> an array will be returned in \*all\* cases. This particular case, no  
> matter how improbable or illogical it may be, is an allowable input. My  
> issue isn't so much about the behavior of the procedure, but rather that  
> the documentation doesn't match what the procedure does in every case.

Michael, I understand where you are coming from, and you are right, GAUSS\_FUNCT is wrong. (\*) I can see that in the course of fitting with GAUSSFIT, it's quite possible that the "sigma" parameter might head towards zero, but I'm at a loss as to why it would get stuck right at zero... unless you set it there to begin with? "Doctor it hurts when I do this." "Then don't do that."

(\*) I think this is a dog food problem. Namely, that RSI is not eating enough of its own dog food, so it isn't finding its own bugs. [ For non-nerds, "eating your own dogfood" = "using your own code" ]

I can also gently direct you to MPFITPEAK, which is a plug in replacement for GAUSSFIT, but doesn't have any of that ugly RSI code in it, :-)) and is built on the robust MPFIT fitting engine.

Craig

<http://cow.physics.wisc.edu/~craigm/idl/idl.html> (under fitting)

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