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Subject: learning how to use mpfit,. need help  
Posted by [alkyl47](#) on Tue, 25 Feb 2014 21:35:53 GMT  
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Hi

I am new to idl and learning how to use mpfit but run into error, please help if you have time.

IDL version 6.3

```
//////////////////  
IDL> x = findgen(101)  
IDL> y = 25.*exp(-(x-32.)^2/(2*5.^2))+2.*randomn(0,101)  
% Program caused arithmetic error: Floating underflow  
//////////////////
```

these are the tutorial from the daedalus.as.arizona.edu group.

thanks in advance.

LR

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Subject: Re: learning how to use mpfit,. need help  
Posted by [David Fanning](#) on Tue, 25 Feb 2014 21:44:24 GMT  
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alkyl47@gmail.com writes:

```
> I am new to idl and learning how to use mpfit but run into error, please help if you have time.  
>  
>  
> IDL version 6.3  
>  
> //////////////////  
> IDL> x = findgen(101)  
> IDL> y = 25.*exp(-(x-32.)^2/(2*5.^2))+2.*randomn(0,101)  
> % Program caused arithmetic error: Floating underflow  
> //////////////////  
>  
> these are the tutorial from the daedalus.as.arizona.edu group.
```

Can't help you with MPFIT because I can't even see where you are using it. I can help with underflow errors, the nemesis of many an IDL programmer:

[http://www.idlcoyote.com/math\\_tips/underflow.html](http://www.idlcoyote.com/math_tips/underflow.html)

[http://www.idlcoyote.com/code\\_tips/underflow.html](http://www.idlcoyote.com/code_tips/underflow.html)

Cheers,

David

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David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>

Sepore ma de ni thue. ("Perhaps thou speakest truth.")

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Subject: Re: learning how to use mpfit,. need help  
Posted by [alkyl47](#) on Tue, 25 Feb 2014 21:55:10 GMT  
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On Tuesday, February 25, 2014 11:35:53 AM UTC-10, alk...@gmail.com wrote:

> Hi  
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> I am new to idl and learning how to use mpfit but run into error, please help if you have time.  
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>  
> IDL version 6.3  
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>  
> ///////////////////////////////////  
>  
> IDL> x = findgen(101)  
>  
> IDL> y = 25.\*exp(-(x-32.)^2/(2\*5.^2))+2.\*randomn(0,101)  
>  
> % Program caused arithmetic error: Floating underflow  
>  
> ///////////////////////////////////  
>  
>  
>  
> these are the tutorial from the daedalus.as.arizona.edu group.  
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>  
> thanks in advance.

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Yes, I am slowly getting to mpfit but in order to learn the usage, I need to generate noisy gaussian curve per this web site but did not get very far.

<http://daedalus.as.arizona.edu/wiki/mpfit>

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Subject: Re: learning how to use mpfit,. need help  
Posted by [Harald Frey](#) on Tue, 25 Feb 2014 23:42:01 GMT  
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On Tuesday, February 25, 2014 1:35:53 PM UTC-8, alk...@gmail.com wrote:

> Hi  
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>  
> I am new to idl and learning how to use mpfit but run into error, please help if you have time.  
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>  
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>  
> ///////////////////////////////////  
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> IDL> x = findgen(101)  
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> IDL> y = 25.\*exp(-(x-32.)^2/(2\*5.^2))+2.\*randomn(0,101)  
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> % Program caused arithmetic error: Floating underflow  
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> ///////////////////////////////////  
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>  
>  
> these are the tutorial from the daedalus.as.arizona.edu group.  
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>  
> thanks in advance.  
>

```
>  
>  
> LR
```

Do this in double precision and you will not get the error:

```
IDL> x = dindgen(101)  
IDL> y = 25.*exp(-(x-32.)^2/(2*5.^2))+2.*randomn(0,101)
```

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Subject: Re: learning how to use mpfit,. need help  
Posted by [Craig Markwardt](#) on Wed, 26 Feb 2014 04:13:13 GMT  
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On Tuesday, February 25, 2014 4:35:53 PM UTC-5, alk...@gmail.com wrote:  
> IDL> y = 25.\*exp(-(x-32.)^2/(2\*5.^2))+2.\*randomn(0,101)  
> % Program caused arithmetic error: Floating underflow

Floating underflow is almost never an error. It's just warning you that `exp(-large_number)` far from the centroid of the gaussian, has truncated precision or is being set to zero. Plot your data and you will see it's fine.

Craig

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