
Subject: Re: Beginner: Oplot line $t^{(-5/3)}$

Posted by [Helder Marchetto](#) on Mon, 12 Nov 2012 16:35:10 GMT

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On Monday, November 12, 2012 5:20:31 PM UTC+1, Charlie Paul D'auria wrote:

> Hi there!

>

>

>

> Please bear in mind that I am a complete IDL beginner so excuse any foolishness!

>

>

>

> I have managed to plot an XY graph with data plots.

>

>

>

> My problem lies with my next stage: I need to generate a line of gradient $t^{(-5/3)}$ (then use oplot over my data).

>

>

>

> I get the error 'Attempt to subscript T with I is out of range.' and when I type print,line I only get one value for my line...

>

>

>

> Here is some code I was provided with as a guide, which I have modified slightly:

>

>

>

> line=dblarr(9999)

>

> n=1E-4

>

> t=dblarr(9999)

>

>

>

> for i=0,9999 do begin

>

> t(i)=i

>

> line=n*t(i)^(-5./3.)

>

> endfor

>

>

>
> I have used 9999 as 1E+5 was apparently too large, or something..
>
>
>
> Any help would be much appreciated!!
>
>
>
> Charlie

I would do it like this (using double precision):

```
n=1d-4  
t=dindgen(9999)+1d ; starting from t=0 makes no sense, start from 1  
line=n*t^(-5d /3d)  
window, xsize=600, ysize=400 ; create a window for display  
plot, t, line, /ylog ; plot in y-log coordinates
```

Avoid loops, unless strictly necessary.

Cheers,
Helder

Subject: Re: Beginner: Oplot line $t^{(-5/3)}$
Posted by [David Fanning](#) on Mon, 12 Nov 2012 16:37:32 GMT
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Charlie Paul D'auria writes:

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>
> line=dblarr(9999)
> n=1E-4
> t=dblarr(9999)
>
> for i=0,9999 do begin

```
> t(i)=i
> line=n*t(i)^(-5./3.)
> endfor
>
> I have used 9999 as 1E+5 was apparently too large, or something..
```

You need to find a better programming buddy. :-)

Try this, although I doubt this is what you really want:

```
line = (Dindgen(9999) + n)^(-5./3.)
```

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

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

Subject: Re: Beginner: Oplot line $t^{(-5/3)}$

Posted by [Craig Markwardt](#) on Mon, 12 Nov 2012 20:25:56 GMT

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On Monday, November 12, 2012 11:20:31 AM UTC-5, Charlie Paul D'auria wrote:

```
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> line=dblarr(9999)
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> n=1E-4
>
> t=dblarr(9999)
>
>
>
> for i=0,9999 do begin
>
>   t(i)=i
>
>   line=n*t(i)^(-5./3.)
>
> endfor
>
```

The other posters showed you how to vectorize your problem. I'll point out the problem with your code.

A FOR loop from 0 through 9999 contains 10000 elements, because 0 is included in the count. Therefore you should dimension your variables with 10000 elements.

The IDL Way is that a variable declared like this,

```
T = dblarr(N)
```

Is stepped through like this,

```
FOR i = 0L, n_elements(T)-1 do begin ...
```

Note the "-1"

Craig
