Subject: A bug of NG plot?
Posted by Xin Tao on Thu, 15 Aug 2013 05:48:18 GMT
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Hello,

The following code can produce some very messy figure from NG plot.

IDL> print, !version
{ x86_64 darwin unix Mac OS X 8.2.3 May 2 2013   64   64}

IDL> g=dblarr(10)*0.0+5.0
IDL> ga=g+1e-14*double(randomu(-10,10))
IDL> a=plot(ga)

The size of chars is just not right. I don't know whether it's my problem or it's a bug of IDL. Could someone please let me know how to fix this?

Thanks,

Xin

Subject: Re: A bug of NG plot?
Posted by Helder Marchetto on Thu, 15 Aug 2013 07:49:22 GMT
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On Thursday, August 15, 2013 7:48:18 AM UTC+2, Xin Tao wrote:
> Hello,
>
>
>
> The following code can produce some very messy figure from NG plot.
>
>
>
> IDL> print, !version
>
> { x86_64 darwin unix Mac OS X 8.2.3 May 2 2013   64   64}
>
>
>
> IDL> g=dblarr(10)*0.0+5.0
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>
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>

>
>
> The size of chars is just not right. I don't know whether it's my problem or it's a bug of IDL. Could someone please let me know how to fix this?
>
>
>
> Thanks,
>
>
>
> Xin

Hi,
same problem here (looks funny, though!).

IDL> print, !version
{ x86_64 Win32 Windows Microsoft Windows 8.2.3 May 3 2013 64 64}

Cheers,
Helder

Subject: Re: A bug of NG plot?
Posted by David Fanning on Thu, 15 Aug 2013 12:07:31 GMT
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Xin Tao writes:

> The following code can produce some very messy figure from NG plot.
>
> IDL> print, !version
> { x86_64 darwin unix Mac OS X 8.2.3 May 2 2013 64 64}
>
> IDL> g=dblarr(10)*0.0+5.0
> IDL> ga=g+1e-14*double(randomu(-10,10))
> IDL> a=plot(ga)
>
> The size of chars is just not right. I don't know whether it's my problem or it's a bug of IDL. Could someone please let me know how to fix this?

Honestly, I think it is your problem:

IDL> print, ga, format='(f0.15)'
5.000000000000009
5.000000000000005
5.000000000000005
5.000000000000002

5.000000000000004
5.000000000000005
5.000000000000010
5.000000000000009
5.000000000000003
5.000000000000009

Try this:

```
p = plot(ga-5.0D)
```

Cheers,

David

--
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.")

Subject: Re: A bug of NG plot?
Posted by Paul Van Delst[1] on Thu, 15 Aug 2013 15:28:37 GMT
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I agree the OP is trying to plot some funky(ish) data, but no way that should make the axes character size go north in such a big way.

cheers,

paulv

On 08/15/13 08:07, David Fanning wrote:
> Xin Tao writes:
>
>> The following code can produce some very messy figure from NG plot.
>>
>> IDL> print, !version
>> { x86_64 darwin unix Mac OS X 8.2.3 May 2 2013 64 64}
>>
>> IDL> g=dblarr(10)*0.0+5.0
>> IDL> ga=g+1e-14*double(randomu(-10,10))
>> IDL> a=plot(ga)
>>

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> 5.000000000000009
> 5.000000000000005
> 5.000000000000005
> 5.000000000000002
> 5.000000000000004
> 5.000000000000005
> 5.000000000000010
> 5.000000000000009
> 5.000000000000003
> 5.000000000000009
>
> Try this:
>
> p = plot(ga-5.0D)
>
> Cheers,
>
> David
>
>
>

Subject: Re: A bug of NG plot?
Posted by David Fanning on Thu, 15 Aug 2013 15:54:35 GMT
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Paul van Delst writes:

> I agree the OP is trying to plot some funky(ish) data, but no way that
> should make the axes character size go north in such a big way.

I would cut the function graphics programmers some slack here. That is an EXTREMELY complicated system they are dealing with. I can't imagine that dealing with a data range that differs in the ninth decimal place is the first thing you are trying to keep track of while you are working with this code. Nor do I find it too far fetched to think that the character size of the plot might have something to do with the axis data range. There is a LOT of scaling of axes, viewports, etc. that has to go on in an object graphics system. It is not surprising to me to find some kind of linkage here.

Cheers,

David

--
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.")

Subject: Re: A bug of NG plot?
Posted by Paul Van Delst[1] on Thu, 15 Aug 2013 18:20:26 GMT
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On 08/15/13 11:54, David Fanning wrote:
> Paul van Delst writes:
>
>> I agree the OP is trying to plot some funky(ish) data, but no way that
>> should make the axes character size go north in such a big way.
>
> I would cut the function graphics programmers some slack here.

For a multi-hundreds->thousand of $$ piece of software?

Uh, no.

> That is
> an EXTREMELY complicated system they are dealing with.

No argument there.

<anecdotal over-generalisation>
As systems get more and more complicated, users tend to get less and
less interested in the implementation details. They just want things to
work.
</anecdotal over-generalisation>

> I can't imagine
> that dealing with a data range that differs in the ninth decimal place
> is the first thing you are trying to keep track of while you are working
> with this code. Nor do I find it too far fetched to think that the
> character size of the plot might have something to do with the axis data
> range. There is a LOT of scaling of axes, viewports, etc. that has to go
> on in an object graphics system. It is not surprising to me to find some
> kind of linkage here.

Doesn't mean it should happen.

Don't get me wrong - I'm not expecting IDL to be as reliable as, say, avionics software, but it's clearly a bug.

On the plus side, they (Excelis) now have an additional test case for their QA dept and/or unit tests. Yay for them. :o)

cheers,

paulv

p.s. And, yes, I'm arguing over principle, not degree.

On a scale of 1 (not a problem) to 10 (life is over as we know it), this bug probably doesn't even make to 0.5.

Subject: Re: A bug of NG plot?
Posted by David Fanning on Thu, 15 Aug 2013 18:28:02 GMT
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Paul van Delst writes:

> p.s. And, yes, I'm arguing over principle, not degree.
>
> On a scale of 1 (not a problem) to 10 (life is over as we know it), this
> bug probably doesn't even make to 0.5.

As always, I agree with everything you say, at least to some approximation. ;-)

Cheers,

David

--
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.")

Subject: Re: A bug of NG plot?
Posted by Xin Tao on Fri, 16 Aug 2013 03:04:03 GMT
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> Honestly, I think it is your problem:
>
>
>
> IDL> print, ga, format='(f0.15)'
>
> 5.000000000000009
>
> 5.000000000000005
>
> 5.000000000000005
>
> 5.000000000000002
>
> 5.000000000000004
>
> 5.000000000000005
>
> 5.000000000000010
>
> 5.000000000000009
>
> 5.000000000000003
>
> 5.000000000000009
>
>
>
> Try this:
>
>
>
> p = plot(ga-5.0D)
>
>
>
> Cheers,
>
>
>
> David

The data is a little bit unusual, but not totally unreasonable. I found this bug when trying to plot some conserved quantity. Lost of people have this kind of situation sometime. In my case, the quantity is well conserved. But apparently IDL couldn't figure that out.

Best,

Subject: Re: A bug of NG plot?
Posted by chris_torrence@NOSPAM on Fri, 16 Aug 2013 23:05:05 GMT
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Hi all,

This fails in both direct and object graphics as well. Direct graphics draws the text okay, but the tick spacing is wacky. Object graphics has the same problem as NG.

```
plot,[5,5+1d-14],[5,5+1d-14],xstyle=1,ystyle=1

m = idlgrmodel()
m.add,  idlgraxis(range=[5,5+1d-14],dir=0,xcoord_conv=[-5/(1d-14),1/ 1d-14])
m.add,  idlgraxis(range=[5,5+1d-14],dir=1,ycoord_conv=[-5/(1d-14),1/ 1d-14])
xobjview,m,DOUBLE_VIEW=1
```

This is now logged as IDL-68840.

Cheers,
Chris
ExelisVIS