Subject: Re: cgHistoplot issue
Posted by David Fanning on Wed, 18 May 2011 22:28:11 GMT
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JBT writes:

> Just report one bug of cgHistoplot.
>
> When setting a xrange to cgHistoplot, it automatically changes the yrange too, which is not supposed to happen. You can repeat the problem with the following code.
>
> data = randomu(5L, 200)*20.
> cgHistoplot, data, BINSIZE=1.0
> cgHistoplot, data, BINSIZE=1.0, xr = [0, 15]
>
> The first two lines were actually copied from idlcoyote.com. And you can see the problem after running the third line.

Humm. This turns out to be a property of the PLOT
command that, frankly, I don't understand right
at the moment. Consider this:

```
IDL> x = [-0.96062616, 21.975719]
IDL> y = [0,14.7]
IDL> plot, x, y
```

But, now set the XRANGE:

```
IDL> plot, x, y, xrange=[0,15]
```

What do you make of that!? :-(

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: cgHistoplot issue

Posted by Jianbao on Wed, 18 May 2011 22:48:27 GMT
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Yeah, you are right, David. Then I guess this is a bug of plot rather than of cghistoplot. Anyway, it's not terribly a big deal, just annoying.

JBT

Subject: Re: cgHistoplot issue
Posted by David Fanning on Wed, 18 May 2011 22:50:57 GMT
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David Fanning writes:

>
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>
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> IDL> x = [-0.96062616, 21.975719]
> IDL> y = [0,14.7]
> IDL> plot, x, y
>
> But, now set the XRANGE:
>
> IDL> plot, x, y, xrange=[0,15]
>
> What do you make of that!? :-(

If I try to zoom the plot:

IDL> fsc_zplot, x, y, xrange=[0,15]

It starts out broken, but as soon as I touch the plot
to zoom it, it does the right thing! Weird.

I don't know what to tell you. This looks like a bug with
the plot command to me.

This is one time when, I admit, iPlot produces a better
plot than the Plot command! :-)

```
IDL> iPlot, x, y, xrange=[0,15]
```

Cheers,

David

--
David Fanning, Ph.D.
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Subject: Re: cgHistoplot issue
Posted by Fabzou on Thu, 19 May 2011 02:25:22 GMT
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On 05/19/2011 12:48 AM, JBT wrote:
> Yeah, you are right, David. Then I guess this is a bug of plot rather than of cghistoplot. Anyway, it's not terribly a big deal, just annoying.
>
> JBT

I don't know if its a bug. Plot has always done what it *thinks* to be
the best for the XY ranges. Sometimes it makes sense, sometimes not...

Subject: Re: cgHistoplot issue
Posted by David Fanning on Thu, 19 May 2011 02:57:09 GMT
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Fabzou writes:

> I don't know if its a bug. Plot has always done what it *thinks* to be
> the best for the XY ranges. Sometimes it makes sense, sometimes not...

Well, it's true that it has a mind of its own about

aesthetic axes, but in 25 years I've never seen it
do something this perverse. I'm sure it's a bug, but
I have made no headway figuring out a theory
for how the bug came to exist. :-(

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
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Subject: Re: cgHistoplot issue
Posted by Jeremy Bailin on Thu, 19 May 2011 14:28:22 GMT
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I've actually run into this before. The algorithm that plot uses to decide on the y range is pretty straightforward - it uses the values of the data points within the x range that it is plotting. In David's example, there are *no* data points in the x range, so it defaults to [0,1]. Without looking into the internals of cghistoplot, I can't say for sure, but I would guess that a similar situation is occurring.

-Jeremy.

Subject: Re: cgHistoplot issue
Posted by David Fanning on Thu, 19 May 2011 14:31:38 GMT
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Jeremy Bailin writes:

> I've actually run into this before. The algorithm that plot uses to decide on the y range is pretty straightforward - it uses the values of the data points within the x range that it is plotting. In David's example, there are *no* data points in the x range, so it defaults to [0,1]. Without looking into the internals of cghistoplot, I can't say for sure, but I would guess that a similar situation is occurring.

Ah, of course! Thanks! Maybe I know
how to fix this then. :-)

Cheers,

David

--
David Fanning, Ph.D.
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Subject: Re: cgHistoplot issue
Posted by David Fanning on Thu, 19 May 2011 14:47:19 GMT
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David Fanning writes:

> Ah, of course! Thanks! Maybe I know
> how to fix this then. :-)

OK, I fixed cgHistogram. You can find it here:

http://www.idlcoyote.com/programs/cghistogram.pro

In cgHistogram I was calculating the min and max
ranges for the plot in the variables xrange and yrange.
I was creating the plot scaffolding for the histogram
plot, by using the PLOT command like this:

Plot, xrange, yrange, ...

The fix was simply to create the plot like this:

Plot, [0,0], xrange=xrange, yrange=yrange, ...

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
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