
Subject: Resizeable Graphics window

Posted by [wlandsman](#) on Thu, 17 Feb 2011 19:35:15 GMT

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I am unclear how to add graphics commands to a Coyote graphics window. If I create a simple plot in a resizeable window:

```
cgplot,indgen(100),/window,psym=2
```

and now I want to add error bars.

```
for i=0,89 do cgplots,[i,i],[i-1,i+1],/addcmd
```

I get the plot I want but only after 90 flashes of the window. (If I don't include the /addcmd keyword then the error bars go to a different window.)

Thanks, --Wayne

Subject: Re: Resizeable Graphics window

Posted by [David Fanning](#) on Thu, 17 Feb 2011 20:44:51 GMT

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Jeremy Bailin writes:

> Ah yes, that's clearly a better option. :-)= Lots of nice little tricks within CG still to learn...

>

> Speaking of which, I've got another odd issue with the aspect ratio of output. If I output a postscript file, I get the wrong aspect ratio, but if I out a .png file via ImageMagick, I get the right aspect ratio. Even weirder is that if I set ps_delete=0, the intermediate postscript file has the *right* aspect ratio. I've looked at the code in both sections, and I can't see any difference that could account for it... and if I try to manually run the commands that create the ImageMagicked .png file, I get the wrong aspect ratio!

>

> So I'm befuddled. :-)=

Welcome to my world. :-)

When was the last time you updated your Coyote directory?

Do you recall if there were any other graphics windows open when you created the PostScript file that didn't work properly?

I'll look into it.

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: Resizeable Graphics window
Posted by [David Fanning](#) on Thu, 17 Feb 2011 20:52:42 GMT
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Jeremy Bailin writes:

> Ah yes, that's clearly a better option. :-)= Lots of nice little tricks within CG still to learn...
>
> Speaking of which, I've got another odd issue with the aspect ratio of output. If I output a
postscript file, I get the wrong aspect ratio, but if I out a .png file via ImageMagick, I get the right
aspect ratio. Even weirder is that if I set ps_delete=0, the intermediate postscript file has the
right aspect ratio. I've looked at the code in both sections, and I can't see any difference that
could account for it... and if I try to manually run the commands that create
the ImageMagicked .png file, I get the wrong aspect ratio!
>
> So I'm befuddled. :-)=

My fault. I need to make the resizeable graphics window
the current graphics window before I call PS_Start,
so that PS_Start will get the proper window aspect
ratio. It was using the default window aspect ratio,
rather than the correct one.

I'll update in just a few minutes. I'm right in the
middle of writing some notes for the new Get_Keyword
functionality for cgControl.

Cheers,

David

--

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Subject: Re: Resizeable Graphics window
Posted by [Jeremy Bailin](#) on Thu, 17 Feb 2011 20:56:25 GMT
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>> Speaking of which, I've got another odd issue with the aspect ratio of output. If I output a postscript file, I get the wrong aspect ratio, but if I out a .png file via ImageMagick, I get the right aspect ratio. Even weirder is that if I set ps_delete=0, the intermediate postscript file has the *right* aspect ratio. I've looked at the code in both sections, and I can't see any difference that could account for it... and if I try to manually run the commands that create
> the ImageMagicked .png file, I get the wrong aspect ratio!
>
> When was the last time you updated your Coyote directory?
> Do you recall if there were any other graphics windows
> open when you created the PostScript file that didn't work
> properly?

Coyote library was last updated yesterday afternoon. There is another cgWindow open, but it has the same dimensions.

-Jeremy.

Subject: Re: Resizeable Graphics window
Posted by [wlandsman](#) on Thu, 17 Feb 2011 21:01:30 GMT
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Another resizeable window question:

Do device coordinates make any sense in a resizeable window (when the size of your "device" is always changing)?

Below I give a test program that displays error bars, but first converts the data to device units. It works fine in a normal window, but if I create a resizeable window (i.e. test,/window) the lines are plotted incorrectly.

In this case, the use of device coordinates is perverse, but they are sometimes useful for "ornamental" figures. For example, setting the size of an arrow or the "hat" on an error bar to one-fiftieth of the screen size.

Thanks, --Wayne

```
pro test,window=window
x = indgen(10)
y = indgen(10)
```

; Let's do everything in device coordinates

```

data_low = convert_coord(x,y-0.5,/TO_DEVICE)
data_hi = convert_coord(x,y+0.5,/TO_DEVICE)
xd = data_low[0,*]
yl = data_low[1,*]
yh = data_hi[1,*]

cgplot,indgen(10),indgen(10),window=window,psym=2
if keyword_Set(window) then cgcontrol,execute=0

for i=0,9 do $
  cgplots,[xd[i],xd[i]],[yl[i],yh[i] ],/device, addcmd = window

if keyword_set(window) then cgcontrol,execute=1
return
end

```

Subject: Re: Resizeable Graphics window
 Posted by [wlandsman](#) on Thu, 17 Feb 2011 21:05:17 GMT
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On Thursday, February 17, 2011 3:24:55 PM UTC-5, Jeremy Bailin wrote:

> Speaking of which, I've got another odd issue with the aspect ratio of output. If I output a postscript file, I get the wrong aspect ratio, but if I out a .png file via ImageMagick, I get the right aspect ratio. Even weirder is that if I set ps_delete=0, the intermediate postscript file has the *right* aspect ratio.

And what's even more weirder (bad grammar intentional) is that I am having the opposite problem. My postscript files have the right aspect, but the .png file created via ImageMagick has the wrong aspect. I will try to make an example code. --Wayne

Subject: Re: Resizeable Graphics window
 Posted by [David Fanning](#) on Thu, 17 Feb 2011 21:13:17 GMT
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wlandsman writes:

> Another resizeable window question:
 >
 > Do device coordinates make any sense in a resizeable window (when the size of your "device" is always changing)?
 >
 > Below I give a test program that displays error bars, but first converts the data to device units. It works fine in a normal window, but if I create a resizeable window (i.e. test,/window) the lines

are plotted incorrectly.

>

> In this case, the use of device coordinates is perverse, but they are sometimes useful for "ornamental" figures. For example, setting the size of an arrow or the "hat" on an error bar to one-fiftieth of the screen size.

The problem here is that cgWindow is "hiding" itself from the rest of IDL. That is to say, you are going to have to go to some trouble to write into a cgWindow graphics window accidentally. This is probably why you can't calculate the device coordinates correctly. The "current" graphics window is not the cgWindow graphics window when you are doing the calculations. (Although it probably looks like it might be.)

To do the calculations properly, you are going to have to make the cgWindow graphics window the "current" graphics window, do the calculations based on that window, add your commands, etc.

```
cgWindow
WSet, cgQuery(/Current)
deviceCoords = Convert_Coord(dataCoords, /To_Device)
etc.
```

Maybe cgWindow needs a CoordConvert method. Let me give this some thought. This would make it possible to know where you are in the window, so we could report it. But, again, we are going in the direction of Coyote Graphics 2.0.

Cheers,

David

--

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Subject: Re: Resizeable Graphics window
Posted by [wlandsman](#) on Thu, 17 Feb 2011 21:21:25 GMT
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On Thursday, February 17, 2011 4:01:30 PM UTC-5, wlandsman wrote:

> Below I give a test program that displays error bars, but first converts the data to device units. It works fine in a normal window, but if I create a resizable window (i.e. test,/window) the lines are plotted incorrectly.

I should say that the problem persists even if I compute device coordinates *after* creating the resizable graphics window. The revised code is below.

But the problem is fixed if I take David's recent suggestion and add a

```
WSet, cgQuery(/Current)
```

after the `cgplot` command.

```
pro test,window=window
x = indgen(10)
y = indgen(10)

cgplot,indgen(10),indgen(10),window=window,psym=2

; Let's do everything in device coordinates
data_low = convert_coord(x,y-0.5,/TO_DEVICE)
data_hi = convert_coord(x,y+0.5,/TO_DEVICE)
xd = data_low[0,*]
yl = data_low[1,*]
yh = data_hi[1,*]

if keyword_Set(window) then cgcontrol,execute=0

for i=0,9 do $
  cgplots,[xd[i],xd[i]],[yl[i],yh[i] ],/device, addcmd = window

if keyword_set(window) then cgcontrol,execute=1
return
end
```

Subject: Re: Resizable Graphics window
Posted by [David Fanning](#) on Thu, 17 Feb 2011 21:23:53 GMT
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wlandsman writes:

> And what's even more weirder (bad grammar intentional) is that I am having the opposite problem. My postscript files have the right aspect, but the .png file created via ImageMagick has

the wrong aspect. I will try to make an example code. --Wayne

OK, let's make sure we are all using the same software here. New update a minute ago. :-)

Let's see weird. I've nothing else to do today. ;-)

Cheers,

David

--

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Subject: Re: Resizeable Graphics window
Posted by [Jeremy Bailin](#) on Fri, 18 Feb 2011 14:53:51 GMT
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Just updated, tested, and everything works properly (all aspect ratios are right).

-Jeremy.
