
Subject: cgimage not generating output with cgps_open and cgps_close (fine in X window) .

Posted by [JTMHD](#) on Mon, 20 Oct 2014 16:50:48 GMT

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Hi All,

I'm not getting what I expect to get when I try to make postscript or PNG output by nesting a cgimage command in cgps_open and cgps_close so was wondering if anyone could point me in the right direction.

Now, if I say run

```
testarray=dist(256)
```

```
title='E$\subx$'
```

```
xtitle = 'x [c$\omega$$\subpe$$\up-1$]'
```

```
ytitle = 't [$\omega$$\subpe$$\up-1$]'
```

```
ct=5
```

```
cgLOADCT, ct, NCOLORS=256
```

```
cgimage,testarray,/axes,$
```

```
xs=1,ys=1,xtitle=xtitle,ytitle=ytitle,title=title, $
```

```
POSITION=[0.15, 0.3, 0.95, 0.9]
```

```
cgCOLORBAR, NCOLORS=256, POSITION=[0.15, 0.13, 0.95, 0.18], $
```

```
RANGE=[min(testarray),max(testarray)],FORMAT='(e11.1)'
```

I see in the x-windows display exactly what I'd expect, the image itself surrounded by axes and the greek characters and super/subscripts work properly.

Now, when attempting to do the same nested in cgps_open / cgps_close, i.e.,

```
testarray=dist(256)
```

```
title='E$\subx$'
```

```
xtitle = 'x [c$\omega$$\subpe$$\up-1$]'
```

```
ytitle = 't [$\omega$$\subpe$$\up-1$]'
```

```
ct=5
```

```
cgLOADCT, ct, NCOLORS=256
```

```
cgPS_OPEN,'testout.ps'
```

```
cgimage,testarray,/axes,$
```

```
xs=1,ys=1,xtitle=xtitle,ytitle=ytitle,title=title, $
```

```
POSITION=[0.15, 0.3, 0.95, 0.9]
```

```
cgCOLORBAR, NCOLORS=256, POSITION=[0.15, 0.13, 0.95, 0.18], $  
RANGE=[min(testarray),max(testarray)],FORMAT='(e11.1)'  
cgPS_CLOSE
```

This does not generate an image, in that the axes and color bar draw correctly, but there is no image drawn within those axes.

If instead of an image I go for a contour plot, as such:

```
testarray=dist(256)
```

```
title='E$\sub{x}$'  
xtitle = 'x [c$\omega$$\sub{pe}$$\up{-1}$]'  
ytitle = 't [$\omega$$\sub{pe}$$\up{-1}$]'
```

```
ct=5  
cgLOADCT, ct, NCOLORS=256
```

```
cgPS_OPEN,'testout.ps'  
cgcontour,testarray,/axes,$  
xs=1,ys=1,xtitle=xtitle,ytitle=ytitle,title=title, $  
POSITION=[0.15, 0.3, 0.95, 0.9],/FILL,NLEVELS=256  
cgCOLORBAR, NCOLORS=256, POSITION=[0.15, 0.13, 0.95, 0.18], $  
RANGE=[min(testarray),max(testarray)],FORMAT='(e11.1)'  
cgPS_CLOSE
```

output is expected.

What is peculiar to cgimage and its operation with postscript output that I've missed? Furthermore, I am certain I've actually managed this before (but I'm on a new machine so perhaps some subtlety with setup I've missed) without issue.

Cheers,

Jonathan

Subject: Re: cgimage not generating output with cgps_open and cgps_close (fine in X window) .

Posted by [David Fanning](#) on Mon, 20 Oct 2014 17:37:58 GMT

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JTMHD writes:

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Well, leave the XSCALE and YSCALE keywords off your cgImage command. They aren't needed (cgImage does this automatically), and they are somehow (don't understand it yet) screwing things up.

Cheers,

David

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David Fanning, Ph.D.

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

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

Subject: Re: cgimage not generating output with cgps_open and cgps_close (fine in X window) .

Posted by [David Fanning](#) on Mon, 20 Oct 2014 18:06:10 GMT

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David Fanning writes:

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Alright, here is what is happening. This is a combination of the usual keyword inheritance nonsense, with a little twist from IDL letting you abbreviate keyword names.

The proper way to set axis properties in cgImage is via the AXKeywords keyword, which no one can figure out how to use. So I allow a *limited* number of axis keywords to be used on the cgImage command line (e.g., xrange and yrange). I don't forbid you to use XSCALE and YSCALE keywords (the ol' keyword inheritance problem), but there should be no reason to use them, either. cgImage knows what it is doing and does axis things correctly.

Had you actually used XSCALE and YSCALE keywords, instead of their shorted form XS and YS, you would have received an error message, since these keywords are passed along to the TV command. They don't mean anything to the TV command, so the TV command complains. But, in their shortened form, XS and YS, they are interpreted by the TV command as the XSIZE and YSIZE keywords, and they will overwrite the XSIZE and YSIZE

values cglImage uses internally to size a PostScript image. (The XSIZE and YSIZE keywords are only used by the TV command when in the PostScript device.) As a result, and this is why you weren't getting an error, your image was being sized to a one-by-one pixel, which was being displayed correctly in your output. :-)

Cheers,

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Subject: Re: cgimage not generating output with cgps_open and cgps_close (fine in X window) .

Posted by [David Fanning](#) on Mon, 20 Oct 2014 18:14:46 GMT

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David Fanning writes:

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By the way, when you write code like this:

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cgimage, image, /xs, /ys
```

You are doing two things wrong in my opinion. You are abbreviating keyword names, which makes your programs difficult to understand and debug (see current discussion today), and you are using a keyword shortcut that is inappropriate with non-boolean keywords that can have values *other* than 0 or 1. It works, but it strikes me as a lousy programming practice, since it, too, sends the wrong message to people looking for problems in your programs.

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Subject: Re: cgimage not generating output with cgps_open and cgps_close (fine in X window) .

Posted by [JTMHD](#) on Mon, 20 Oct 2014 19:52:23 GMT

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On Monday, 20 October 2014 19:06:14 UTC+1, David Fanning wrote:

> David Fanning writes:

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>

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Hi David,

Thank you for reply - I can happily confirm that this fixes the problem. I guess the reason I've not came up against this in the past is that for some reason its only today that I've absent-mindedly stuck the xs=1,ys=1 keywords in despite not needing them (perhaps a habit from other plotting!).

I would just like to stress how much time I think your answer has saved me - I was copying and pasting the code from a little text file so who knows how long it would have been before I would have typed it out again without those keywords and perhaps noticed the culprit!

Thanks,

Jonathan

Subject: Re: cgimage not generating output with cgps_open and cgps_close (fine in X window) .

Posted by [JTMHD](#) on Mon, 20 Oct 2014 19:54:52 GMT

[View Forum Message](#) <> [Reply to Message](#)

On Monday, 20 October 2014 19:14:50 UTC+1, David Fanning wrote:

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I see what you are saying and will bear it in mind. Its a hangover from using IDL interactively for a quick look at data, but I can totally see how this good practice would pay off if you where writing more sophisticated tools

Subject: Re: cgimage not generating output with cgps_open and cgps_close (fine in X window) .

Posted by [JTMHD](#) on Mon, 20 Oct 2014 19:56:26 GMT

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On Monday, 20 October 2014 19:14:50 UTC+1, David Fanning wrote:

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Posted by [JTMHD](#) on Mon, 20 Oct 2014 19:56:54 GMT

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