Subject: Re: An IDL cron job, true color plots, Xvfb, Z-buffer, and all sorts of troubles

Posted by Spon on Thu, 07 Feb 2008 11:10:53 GMT

View Forum Message <> Reply to Message

```
On Feb 7, 10:06 am, "kathryn....@gmail.com" <kathryn....@gmail.com>
wrote:
```

> Hi folks,

>

- This newsgroup has been a huge help to me with these sorts of problems
- in the past, and I am hoping once again to draw on your expertise.

>

- My problem is a little complicated. I have a particular plotting
- > routine that uses a color scale to represent signal response over a
- > grid of detectors. I use this a lot and it's really handy. It also
- > took me a really long time to get it to work and to be able to
- > write png files from it without getting goofy colors. What I would
- > like to do is automate this routine and run it with a cron job,
- > outputting png files to include in a daily web page.

>

- > I have noticed that guite a few people have tried to do similar things
- > and run into problems. I have problems with all of the suggested
- solutions. Any one of them would be fine but I can't get them to
- work. So here goes:

>

- > option 1) use the Z buffer: Here I think I am running into problems
- > with my understanding of true-color display issues in IDL. My plot
- > routine includes a line 'Device, decomposed = 0' and the Z-buffer
- > doesn't work the same way as the X buffer. That's problem number
- > one. Problem number two is that I can't figure out how to take the Z-
- > buffer plot and make a png file out of it with correct colors.

>

- > option 2) write to a ps file and convert it to png after the fact. I
- > have similar problems here with my Device, decomposed = 0, and I don't
- > understand how to translate my plotting routine so that it will do the
- same thing with the ps device that it does with standard X output. >

>

- > option 3) use the /pixmap option with an X window, and then use Xvfb
- > to run a virtual X session so that I can run this from cron. I have
- > Xvfb installed and with some fiddling, I can get the authentication to
- > work out so that I don't get an immediate Xlib: connection to ":1.0"
- > refused by server, but even then I still get WINDOW: Unable to connect
- > to X Windows display: :1.0 errors, even though the DISPLAY variable
- > looks to be set correctly to me. I really hoped I could get this to
- > work, because doing window, 1, /pixmap, running the plotter, and then
- > calling write_png, 'file.png', tvrd(/true) works wonderfully and gives
- > exactly what I want... just not through cron.

>

```
> I think the main reason I'm having so much trouble here is I'm trying
> to get something to work with color tables and true-color display
> without really understanding them. A stripped-down version of the
> plotting routine is below. I would invoke it with something like>plot_test, [0,2,3],[0.2,0.7,1.0].
Before I run this, I have quite a
> few graphics setup calls in my idl_startup file. Between running it,
> I typically do
> loadct, 0
> !p.color = !black
> !p.background = !white
> to make the display look right each time.
>
  Sorry for the long-winded question. Sample plotting routine follows:
  pro plot_test, indices, color_scale,$
            title=title
>
> if n elements(title) eq 0 then title="
>
> ; example simple grid of 4 points:
> x pos=[1., 2., 1., 2.]
> y_pos=[1.,1.,2.,2]
> ;plot, the center points for each detector:
> plot, x_pos, y_pos, xrange=[0,3], yrange=[0,3], /xstyle, /ystyle, /iso,$
> psym = 3, title = title
> Device, decomposed = 0
> LoadCT, 33
> ; determine the color scale to use
> color scale=float(color scale)
>
> color_values = ((color_scale - min(color_scale))/(max(color_scale)-
> min(color_scale)))* 255
>
> :plot circles filled with the colors in the scale
> for i=0,n_elements(indices)-1 do begin
    polyfill, circle(x_pos[indices[i]],y_pos[indices[i]],0.25),
> color=color values[i]
> endfor
>
> colorbar, /vertical, format='(F6.2)',$
         range=[min(color_scale),max(color_scale)]
>
> end
> - Kathryn
```

This may be a clumsy way of going about it, I admit I've not had to use PostScript output much, but what happens if you replace:

Device, decomposed = 0With:

IF !D.NAME EQ 'PS' THEN DEVICE, /COLOR, BITS = 8 ELSE DEVICE, DECOMPOSED = 0

(assuming you've already set your filename when you called SET_PLOT if you're using postscript)

As far as I can work out, LOADCT should work just like TVLCT in Postscript mode, no?

If I'm wrong about this, I'd love to know why - I'm posting this to learn as much as anything:-)

Anyway, hope it helps, Chris