
Subject: Pan/Zoom Line Plots with Coyote Graphics
Posted by [David Fanning](#) on Thu, 17 May 2012 15:15:00 GMT
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Folks,

At my new job, we had a need to be able to zoom into a lot of data very quickly and then pan around the data to see what points are in the immediate vicinity.

Python has a rudimentary capability like we wanted, but it's just a bit clunky and slow. You can pan IDL 8.1 graphics (sometimes even when you don't want to!), but you can easily pan your plot off the face of the Earth and good luck writing or modifying one of **those** programs!

So, to make a long story short, I had to un-retire for a day to write what we wanted in Coyote Graphics. It's pretty darn slick, even if I say so myself. :-)

I have added it to the Coyote Library this morning:

<http://www.idlcoyote.com/programs/cgzplot.pro>

It is written as an object (although called like a procedure), and is a subclass of a new `cgGraphicsKeywords` object which handles graphics keywords. You will need this program, too.

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

Basically, the program is an interactive wrapper to `cgPlot` and is called **exactly** like `cgPlot`, with all of `cgPlot`'s keywords, etc.

```
IDL> cgZPlot, cgDemodata(1), PSym=2, Color='red'
```

The operations are simple. Zoom with the LEFT mouse button and pan with the RIGHT mouse button.

If you click inside the plot with the LEFT mouse button, you can draw a rubberband zoom box to make your initial zoom selection. You can tweak your zoom by clicking the LEFT mouse button outside of the plot boundaries. Clicking at the top or bottom of the plot will zoom in or out, respectively, of the X axis. Clicking to the right or left of the plot will do the same with the Y axis. To restore the plot to its original dimensions, simply click and release inside the plot without moving the mouse. Complete directions are in the documentation.

If a plot is zoomed, you can use the RIGHT mouse button to pan the plot in the graphics window.

Panning and zooming are incredibly fast and smooth, even with a full size window on my display.

Since I am retired, I figure I am done holding everyone's hand, so if you want nice looking file output, you will have to install ImageMagick and GhostScript (for PDF output). I figure most Coyote Library users will have these installed by now. If not, there is no hope for them anyway. :-)

Cheers,

David

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

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