
Subject: Coyote Library Updates

Posted by [David Fanning](#) on Mon, 01 Aug 2011 01:27:08 GMT

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Folks,

What with travel, lousy Internet connections, and what not, I have been a bit lax about keeping everyone informed about important changes to the Coyote Library.

A couple of changes to important programs are listed here. (Other changes have been made, too. You can always get the latest from the web page or SVN repository.)

cgIMAGE -- Apparently I had some good ideas for this program, documented the changes (which mostly involved defining keywords that affected the axes surrounding the image), then forgot to actually implement the changes. Embarrassing. I could tell you I was in the middle of this when the lion roared outside my window, but it wouldn't be the truth. :-(

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

cgCONTOUR -- The XRange and YRange keywords mean slightly different things in cgImage and cgContour. This has required a new keyword ONIMAGE for cgContour that can work as an aid for overlaying contour lines on top of images. In most cases, the ONIMAGE keyword acts the same as the current OVERPLOT keyword, but there are cases when it acts a LOT better and more correctly.

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

cgWINDOW -- One of the limitations of the way cgWindow stores commands is that keyword values are evaluated at the time the graphics command is added to the window. This precludes the use of expressions as keywords and prevents you from doing things like using a different line thickness in a PostScript file, or using the Greek function to supply a Greek symbol for a graphics title.

I have come up with a method for working around this limitation. It involves a new keyword to the cgWindow command, named WKYEXPR. With this keyword you list the command keywords that should be "evaluated" at run-time. The actual keyword value will need to be a string that can be "evaluated" with the IDL Execute command to produce a "real" keyword value at the time the command is executed. This allows you to set different values for the window

display and for the PostScript display, for example. The WKYEXPR keyword can be used with any CGS routine that supports the current WINDOW keyword.

Here is how you might use it, for example, with the cgPlot command.

```
cgPlot, cgDemoData(1), WKWEXPR=['TITLE', 'THICK'], /WINDOW, $  
    TITLE="Greek Psi Symbol (" + Greek("psi") + ")", $  
    THICK='(!D.Name EQ "PS") ? 3.5 : 1.0', $  
    CHARSIZE=1.5, COLOR='NAVY'
```

I've written an article to explain this in more detail:

http://www.idlcoyote.com/cg_tips/kwexpressions.php

The updated program is here:

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

The entire Coyote Library can be downloaded here:

<http://www.idlcoyote.com/programs/coyoteprograms.zip>

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.")
