
Subject: Errorbar plot with max-min boundaries and bar plot with !P.Multi

Posted by [atmospheric physics](#) on Fri, 29 Nov 2013 14:32:45 GMT

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Hello,

I was attempting to make 2 plots in 1 column using !P.Multi=[0,1,2]. My intention was to obtain: (1) top panel plot - Error estimation plot with mean, standard deviation as background and min-max as boundaries for a time-series data of a variable, (2) below panel plot - Bar plot showing the frequency of observations respectively at each time-step corresponding to the above plot. I started using the examples of colored line plots (for two row plotting), Error-estimate plot (for top panel plot), and Bar plot without errorbars (for below panel plot).

I made the following code, which is resulting in crazy errors and the plots are exchanging their positions (i.e., top panel <-> below panel). I got an error for bar plot as "CgAxis - Keyword array parameter XTICKNAME must have from 1 to 60 elements". I don't have any clue where I am actually going wrong, probably I have not understood properly the Coyote's library graphic routines. Can someone provide me assistance to achieve my desired plot?

```
; -----  
PRO Test_Plot  
  
CLOSE,/ALL  
  
; **** Input Data [80800 data points each] ****  
xtime=jultime      ; X-axis  
var_data=mean_values ; Variable mean values  
var_std=std_values  ; Variable standard deviation values  
high_error=var_data + var_std ; Upper error  
low_error=var_data - var_std ; Lower error  
var_min=min_values  ; Variable minimum values  
var_max=max_values  ; Variable maximum values  
npoints=var_count    ; No. of points used  
  
; Setup variables for the plot  
xtitle = 'Julian Time'  
ytitle1 = 'Variable'  
ytitle2 = 'Counts'  
title = 'Test Plot'  
position1 = [0.15, 0.15, 0.90, 0.50]  
position2 = [0.15, 0.52, 0.90, 0.90]  
thick = (!D.Name EQ 'PS') ? 4 : 2  
  
; Setup colors for plot  
cgLoadct,33,Clip=[10,245]  
colors=['goldenrod','sky blue','blue','black']  
  
; Setup Graphics Display
```

cgDisplay

; Two plots in a column.

!P.Multi=[0,1,2]

; **** First Plot

; Error estimate plot with mean, stddev, [min, max] boundaries

cgPlot, xtime, var_data, Title=title, XTitle=xtitle, YTitle=ytitle1, \$

 XStyle=8, Position=position1,/NoData, YRange=[0,900], \$

 XRange=[86.0, 88.0], YStyle=1

; Fill in the error estimates

cgColorFill, [xtime, Reverse(xtime), xtime[0]], \$

 [high_error, Reverse(low_error), high_error[0]], \$

 Color=colors[1], Position=position1

; Draw the line plot with no data

cgPlotS, xtime, var_data, linestyle=0, thick=2, Color=colors[3]

cgPlotS, xtime, var_min, linestyle=2, thick=2, Color=colors[2]

cgPlotS, xtime, var_max, linestyle=2, thick=2, Color=colors[2]

; **** Second plot

; Draw the bottom plot without a top axis

cgBarPlot, npoints, Colors=colors[0], BarCoords=xtime, Position=position2, \$

 YTitle=ytitle2, XTitle=xtitle, XRange=[86.0,88.0], YRange=[0,100]

; Repair some of the damage to the axes.

cgPlots, [0.15, 0.15], [0.50, 0.52], /Normal ; Fix left axis.

cgPlots, [0.90, 0.90], [0.50, 0.52], /Normal ; Fix right axis.

; Clean up.

!P.Multi = 0

END

; Display the plot in a graphics window.

Test_Plot

; Display the plot in a resizable graphics window.

cgWindow, 'Test_Plot', WBackground='White', \$

 WTitle='Test Plot'

; Create a PostScript file.

cgPS_Open, 'test_plot.ps'

Test_Plot

cgPS_Close

; Create a PNG file with a width of 600 pixels.

cgPS2Raster, 'test_plot.ps', /PNG, Width=600

END

; -----

Thanks in advance.
