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 resizeable 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.
