Subject: Y2 axis title orientation
Posted by Jonathan on Fri, 28 Jan 2011 18:47:11 GMT
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I have been occasionally frustrated by the inability to title a Y2 axis (y-axis on the right side of a plot) with the right orientation. Using the command:
AXIS,/SAVE,YAXIS=1,TITLE='title'
writes the title with the baseline on the right, rather than the left. The latter is how I have always seen and used y2 axis titles, and it is a strange quirk of IDL that it insists on doing this in a non-standard (and in fact ugly) way.

Today, I finally wrote a routine to correct this. I do not promise that it is perfect, but I hope it is a step in the right direction, and that with input from users of this group we can finally make a usable y2 axis title routine.

Here it is ...

```
;+
; NAME:
;   Y2TITLE
;
; PURPOSE:
;       The purpose of this routine is to print a right-hand y-axis
title
;       with the baseline towards the axis (IDL's baseline is away
from the axis).
;
; AUTHOR:
;
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;
; CATEGORY:
;       Plotting, annotation and labeling.
;
; CALLING SEQUENCE:
;       Y2TITLE(titletext)
;
; INPUTS:
;       titletext:  The text that you want to use for the Y2 title.
;
; KEYWORD PARAMETERS:
```

```
;
;       ANGLE:    An angle for the text, CCW from vertical + baseline
to the left
;                 in degrees.
;
;       CHARSIZE: The character size of the title. Default is 1.0.
;
;       COLOR:    The color index of the title. Default is !P.Color..
;
;       FONT:     Sets the font of the annotation. Hershey: -1,
Hardware:0, True-Type: 1.
;
;
; COMMON BLOCKS:
;       None.
;
; SIDE EFFECTS:
;       The title is relative to the most recent PLOT call.
;
; RESTRICTIONS:
;       none.
;
; EXAMPLE:
;       To display a y2 title, type:
;
;       x=findgen(100)
;       y1=sin(2*!pi*x/30)
;       y2=5.*cos(2*!pi*x/45 + 0.6)
;       PLOT,x,y1,YRANGE=[-1,1],YSTYLE=3,YTITLE='SIN(2!4p!3x/30)'
;       AXIS,/SAVE,YAXIS=1,YRANGE=[-5,5],YSTYLE=3
;       OPLOT,x,y2,linestyle=2
;       Y2TITLE('5.0*COS(2!4p!3x/45 + 0.6)')
;
; MODIFICATION HISTORY:
;       Written by: Jonathan Friedman, 28 January 2011.
;-
;
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;
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;
;
 ;##################################################################### ##################


PRO y2title, text,ANGLE=angle,CHARSIZE=charsize,COLOR=color,FONT=font

IF NOT KEYWORD_SET(ANGLE) then angle=0
  ; coordinates of the plotting window in /NORMAL
x0 = !x.window[0]
x1 = !x.window[1]
y0 = !y.window[0]
y1 = !y.window[1]
ch_nwidth = FLOAT(!D.X_CH_SIZE)/FLOAT(!D.X_VSIZE)

  ; Determine the width of the y2 axis labels, and set the
  ; position of the y2 axis title to the right of the labels.
ylabel_val = ABS(!Y.CRANGE[1]) > ABS(!Y.CRANGE[0])
ofs = (MIN(!Y.CRANGE) LT 0)? 3:2
label_nwidth = CEIL(ABS(ALOG10(ylabel_val))) + ofs
cs = (!P.CHARSIZE GT 0) ? !P.CHARSIZE*ch_nwidth : ch_nwidth
xpos = (x1 + 0.01*(x1-x0)) + label_nwidth*cs
ypos = (y1 + y0)/2
XYOUTS,xpos,ypos,text,/NORMAL,ALIGNMENT=0.5, $
       ORIENTATION=270+angle, $
       CHARSIZE=charsize, COLOR=color, FONT=font

END
```