Subject: Axis labeling trickery
Posted by Paul Levine on Fri, 06 Sep 2013 23:18:06 GMT
View Forum Message <> Reply to Message

I am plotting some irregularly-spaced observations over 10 years, and I would like my x-axis to be labeled with exactly those 10 years, with a tick mark at the beginning of every year.

When I use XTickFormat='Label_Date' and XTicks = 10, the tick marks are in the right place (January 1) but of course I then have 11 tick marks, including a label with the year after my 10-year interval. My current workaround is to draw the labels that I want to see with xyouts (or cgText), but this leaves me with other problems, so I am hoping there is a non-workaround way to make the y-axis labels as I want from the get go.

What follows are two examples, the first of which draws the problematic labels, the second uses my workaround. The first two lines of each example generate some random data that simulates the data I'm working with. Both examples use coyote graphics procedures, but should work the same with plot for cgPlot and xyouts for cgText

Example 1:

```
time = timegen(120,start=julday(1,1,2003), units='M', step_size=1)
data = 20*randomu(seed,n_elements(time))-10
void = Label_Date(Date_Format='%Y')
cgPlot, time, data, xrange=[julday(1,1,2003),julday(12,31,2012)],
XTickFormat='Label_Date', XTicks = 10
```

In this example, my y-axis labels include 2003 through 2013, when I would like for it to stop at 2012

Example 2:

```
time = timegen(120,start=julday(1,1,2003), units='M', step_size=1)
data = 20*randomu(seed,n_elements(time))-10
void = Label_Date(Date_Format=' ')
years = indgen(10)+2003
cgPlot, time, data, xrange=[julday(1,1,2003),julday(12,31,2012)],
XTickFormat='Label_Date', XTicks = 10
xoff = 2 ; sets how far to the right of the tick mark the labels should
be drawn
yoff = 1 ; sets how far below the x-axis the labels should be drawn
cgtext, julday(1+xoff,1,years), min(data)-yoff, strtrim(years,1)
```

This draws exactly the labels I want (2003-2012), and has the added

benefit of letting me scoot the labels over a bit to the right so that they are centered under the year interval, rather than centered at the January 1 tick mark. But it introduces the problem of needing to set the values for xoff, which will depend on the size of the window, and yoff, which will depend on the range of the daya (in my example, the data ranges from -10 to 10, so a yoff = 1 works, but if the data range was from -1 to 1 or was from -1000 to 1000 then it would not work so well). The xoff problem can be worked around by explicitly setting the window size, but the yoff problem is data-dependent.

Is there a better way of doing this that does not depend on the data range?

Thanks in advance!
