Subject: Re: IDL data coordinates in a widget
Posted by David Fanning on Wed, 09 Jan 2002 13:58:07 GMT

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Juan I. Cicuendez (jicicuendez@gmv.es) writes:

> I am trying to set up an interactive widget that provides the data
> value corresponding to a plot on a widget_draw pannel. I am stuck as I
> can't manage to obtain the right data coordinates of the system.
> First I was using a multiple plot, and from the motion_event obtaining
> x,y coordinates on the draw pannel. This seem to work fine and I
> obtain the device coordinates, but when I try to use
> data=CONVERT_COORD(x,y,/DEVICE, /TO_DATA)
> the output I get does not make any sense and does not match my data
> (some of them are negative values). I thought that this could be an
> interference when using a multiple plot so I tried to decompose my
> whole plot into individual ones (tedious way) and apply this described
> method individually and still does not work and even though the values
> are better, for fixed x intervals in the plot the calculated x length
> varies.
>
> Does enyone know why this is happenning? Is there any solution to this
> or another way do solve this?

Since you are doing several plots, I suspect the problem
is that the scaling factors you are using to convert between
device coordinates and data coordinates are not the correct
factors for the plot you are using. These factors are
calculated and stored in system variables at the time
the plot is drawn. You will have to save these variables
and restore them before you interact with the plot, if
you want them to be correct. Otherwise, they will only
be correct for the most recent plot drawn that day in IDL. :-)

I typically do something like this:

```
  Plot, data
  info.x1 = !X
  info.y1 = !Y
  info.p1 = !P
  Plot, moredata
  info.x2 = !X
  info.y2 = !Y
  info.p2 = !P
```

Then, when I want to interact with a plot (say, Plot 2 in this case)
I do this:

```
!X = info.x2
!Y = info.y2
!P = info.p2
Oplot, stillmoredata ; Or whatever.
```

You can find an example widget program demonstrating these
ideas here:

  http://www.dfanning.com/tip_examples/track_data_value.pro

Another problem, sometimes, is using the CURSOR command in
draw widget windows instead of the built-in capability of
the draw widget. This can cause subtle, and extremely
annoying, problems, too.

Cheers,

David
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