
Subject: OBJ_AXIS tick labels

Posted by [Pavel Romashkin](#) on Tue, 13 Apr 1999 07:00:00 GMT

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Hi,

Could anyone tell me: do I really have to individually call SETPROPERTY, RECOMPUTE=2 for axis tick labels (which, by the way, are not so easily accessible from an axis object) each time I change viewplane rectangle (when placing data in PLOT object after initializing it with no data), or there is a smart way to do that? Once I change the data in a plot object, re-limit axes and recalculate viewplane rectangle, tick labels get squeezed. So do axes titles, despite having their RECOMPUTE set to 2. If I set RECOMPUTE to 2 after the transformation, everything looks ok, but shouldn't CHAR_SIZE be recomputed automatically if RECOMPUTE is set to 2?

I am just beginning with object graphics so please forgive my ignorance.

Thank you,
Pavel

Subject: Re: OBJ_AXIS tick labels

Posted by [davidf](#) on Wed, 14 Apr 1999 07:00:00 GMT

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Pavel Romashkin (pavel@terra.colorado.edu) writes:

> Dave, do you set viewplane rectangle to [0, 0, 1, 1]? Do you then explicitly
> specify the location for your axis in a view? Default settings ([-1, -1, 2,
> ,2]) do not seem to make sense., axes start in the center of the screen
> then. Well, too many questions I'm afraid. Could you tell me, is there a
> procedure in your archive that does it, which I could examine to see how you
> did it?

For this particular application the viewplane rectangle is set like this:

```
plotView = Obj_New('IDLgrView', Viewplane_Rect=[-.35, -.35, 1.6, 1.6], $  
  Location=[0,0], Color=[80,80,80])
```

This allows me to scale the data into 0 to 1 and have the plot fit into the window nicely. (Normalize, which you can find on my web page, scales into 0 to 1 by default, but you can also use it to scale into *any* range.) I like to use the 0 to 1 idea for plots because I'm more familiar with it.

Sometimes I make the viewplane rectangle coordinates 0 to 1

and then I can "position" things in the window using the same thinking I use in direct graphics. But, of course, the coordinate system established by the viewplane rectangle is completely arbitrary and is set up only for your own convenience.

You can see how I set up the viewplane rectangle by looking at the XPLOT program on my web page:

<http://www.dfanning.com/programs/xplot.pro>

Unfortunately, this doesn't have the ability to change data sets, so the character dimension recomputing is not implemented there. Perhaps I'll get around to implementing it as soon as I pay my taxes. :-(

But what I showed you this morning was from a program that I just hacked from this one.

Cheers,

David

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David Fanning, Ph.D.

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Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: OBJ_AXIS tick labels

Posted by [Pavel Romashkin](#) on Wed, 14 Apr 1999 07:00:00 GMT

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David Fanning wrote:

> I tend to
> leave the veiwplane rectangle alone and scale everything
> into it.

Dave, do you set viewplane rectangle to [0, 0, 1, 1]? Do you then explicitly specify the location for your axis in a view? Default settings ([-1, -1, 2, 2]) do not seem to make sense., axes start in the center of the screen then. Well, too many questions I'm afraid. Could you tell me, is there a procedure in your archive that does it, which I could examine to see how you did it?

Thank you,
Pavel

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> 2. If I set RECOMPUTE to 2 after the transformation, everything looks
> ok, but shouldn't CHAR_SIZE be recomputed automatically if RECOMPUTE is
> set to 2?

Well, no question you have to recompute the polygons after you re-scale the axes. I don't know why you have to do it by hand every time. I've never seen this. Perhaps because you are recalculating the viewplane rectangle. I tend to leave the viewplane rectangle alone and scale everything into it.

Here is the code I use to define one of my axes. You see how I get the axes labels and set them to recompute themselves. The "xtitle" variable is a text object that also has Recompute_Dimensions set to 2.

```
xAxis1 = Obj_New("IDLgrAxis", 0, Color=[255,255,0], Ticklen=0.025, $
  Minor=4, Range=xrange, Title=xtitle, XCoord_Conv=xs, $
  Location=[1000, 0 ,0], /Exact)
xAxis1->GetProperty, Ticktext=xAxisText
helvetica10pt = Obj_New('IDLgrFont', 'Helvetica', Size=10)
xAxisText->SetProperty, Font=helvetica10pt, Recompute_Dimensions=2
```

After I load new data, I have code that looks something like this. Normalize is a utility routine that creates scaling factors to scale the data into 0 to 1, which is appropriate for the viewplane rectangle I'm using.

```
info.thisPlot->SetProperty, DataX = x, DataY = y
info.thisPlot->GetProperty, XRange=xrange, YRange=yrange
xs = Normalize(xrange)
```

```
ys = Normalize(yrange)
info.thisPlot->SetProperty, XCoord_Conv=xs, YCoord_Conv=ys
```

```
info.xaxis1->SetProperty, XCoord_Conv=xs, Range=xrange
info.yaxis1->SetProperty, YCoord_Conv=ys, Range=yrange
```

The axis labels and titles now appear fine. That is, they get recomputed correctly and automatically.

Cheers,

David

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[Note: This follow-up was e-mailed to the cited author.]
