
Subject: Text size weirdness

Posted by [Michael Wallace](#) on Tue, 07 Jun 2005 04:33:16 GMT

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I have encountered a strange problem and I am at a loss to explain it. I am using `IDLgrWindow::GetTextDimensions` with an `IDLgrAxis` and am getting results that I don't expect. I have a plot with axes and other annotations and I'd like to calculate the "bounding box" around all the objects. The left bound of the box is determined by the Y axis and the bottom bound of the box is determined by the X axis. I'd prefer that this value be calculated rather than hard-coded.

Anyway, I am consistently calculating bounds that are too small. I can always see part of the axis text, but never all of it. I've put together an example that shows what I'm trying to explain. In my example, I use a 1 x 1 viewplane and [0, 1] axis data ranges so there aren't any coordinate transformations to gum up the works. I also have both axes pass through the origin.

I had thought that if I got the X dimension of the Y axis text and subtracted that from 0, I would get the left bound on the Y axis text. The same goes for the X axis. If I got the Y dimension of X axis text and subtracted that from 0, I would get the bottom bound on the X axis.

But, this doesn't work! I'm able to see part of the text, but never all of it. Despite the various approaches I've tried so far, it remains very consistent -- the "clipping line" seems to be in the same relative position. It always shows just a little over half of the text.

```
; Setup objects and note the 1 x 1 viewplane
window = obj_new('idlgrwindow')
view = obj_new('idlgrview', VIEWPLANE_RECT = [0, 0, 1, 1])
model = obj_new('idlgrmodel')
xaxis = obj_new('idlgraxis', 0)
yaxis = obj_new('idlgraxis', 1)
```

```
model -> add, xaxis
model -> add, yaxis
view -> add, model
window -> SetProperty, GRAPHICS_TREE = view
```

```
; Set the tick text to recompute dimensions automatically
xaxis -> SetProperty, TICKTEXT = xtt
yaxis -> SetProperty, TICKTEXT = ytt
xtt -> SetProperty, RECOMPUTE_DIMENSIONS = 2
ytt -> SetProperty, RECOMPUTE_DIMENSIONS = 2
```

```
; Get the dimensions of the axes
```

```
xdims = window -> GetTextDimensions(xaxis)
ydims = window -> GetTextDimensions(yaxis)
```

```
; On my system I see the following values:
```

```
; print, xdims, ydims
;    1.0357957  0.032621843  0.0000000
;    0.037679673  1.0326218  0.0000000
```

```
; Reset the viewplane to show all of the axis text
```

```
view -> SetProperty, VIEWPLANE_RECT = [-ydims[0], -xdims[1], 1, 1]
```

```
; When drawn, part of the labels are clipped off! What's going on?
```

```
; I thought I had positioned the viewplane at the edge according to
```

```
; to the text dimensions!
```

```
window -> draw
```

By the way, I reset the viewplane only because that was the easiest way for me to demonstrate the problem. The viewplane size didn't change and the data ranges were always [0, 1], so I can't figure out why GetTextDimensions gives me numbers that are too small. When I add titles to the axes, the same thing happens, except it's the titles rather than the axis labels that get sliced off.

Have I made a wrong assumption about how GetTextDimensions works? Or how IDLgrAxes work? Or how IDL works? Any idea of why this happens and how to fix it? I just want to know where the axis text is. Is that too much to ask? Why can't the answer just be 42?

-Mike