
Subject: Re: How does IDL calculate the graph axis values?
Posted by [Liam E. Gumley](#) on Wed, 02 Feb 2000 08:00:00 GMT
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Declan Vogt wrote:

> I'd like to find out what IDL will use as the max and min values for a
> graph axis before it actually plots the axis. I've been doing this by
> creating a window, drawing the axis, and reading !x.crange, then erasing
> the window, but it's not very elegant, and it doesn't work for
> postscript.
>
> Does anyone know if there is an IDL routine I can call?

I don't think there's a built-in routine for this purpose. However you can always use the Z buffer as a temporary graphics device:

Say your data is defined as follows:

```
x = findgen(200) * 0.1  
y = sin(x)
```

First you save the current graphics setup:

```
entry_device = !d.name  
entry_window = !d.window  
entry_config = {x:!x, y:!y, z:!z, map:!map}
```

Then you create a temporary plot in the Z buffer:

```
set_plot, 'Z'  
device, z_buffer=0  
plot, x, y, /nodata, xstyle=4, ystyle=4, /noerase, /ynozero  
xrange = !x.crange  
yrange = !y.crange
```

Then you restore the entry graphics setup:

```
set_plot, entry_device  
if (entry_window ge 0) then wset, entry_window  
!x = entry_config.x  
!y = entry_config.y  
!z = entry_config.z  
!map = entry_config.map
```

The x and y axis ranges computed by IDL are then returned:

```
print, xrange, yrange
```

0.00000	20.0000
-1.00000	1.00000

This method does not require a graphics window to be open, does not care what graphics device is active, does not disturb the contents of the Z buffer, and does not disturb the current plot settings.

Cheers,
Liam.
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