
Subject: bug in 'axis'?

Posted by [Grant W. Petty](#) on Tue, 28 Jun 2005 19:57:24 GMT

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I am using IDL (Version 5.4 (linux x86)) routines 'scale3', 'shade_volume', 'polyshade', and 'tvscf' to render and display a 3-D array. I am subsequently using 'axis' to add cartesian axes to the rendered image.

Everything works fine, PROVIDED that there is a call to 'plot' somewhere before the first call to 'axis'. It doesn't matter what I'm plotting or how things are scaled, but if I comment out the call to plot, the later 'axis' call renders what appears to be an axis of zero length.

It's not clear to me why 'axis' should depend on a prior call to 'plot'. Is there a system variable that needs to be initialized before the call to 'axis'? Can I do this without a 'plot' call?

Here is a stripped down program that illustrates the problem:

```
;-----  
  
ndim2 = 64  
pixels = 256  
window, 0, xsize=2*pixels, ysize=2*pixels  
window, 1, xsize=2*pixels, ysize=2*pixels  
depth=3.2  
wset, 0  
  
; when the following line is commented out, the axis call at the  
; bottom does not give the expected result  
;  
; plot, [0.0,1.0], [0.0,1.0]  
  
scale3, xrange=[0,63],yrange=[0,63],zrange=[0,63]  
wset, 1  
axis, ndim2, ndim2, 0, /T3D, charsize=2, zaxis = 1, zrange=[0, depth]  
  
; -----
```

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Subject: Re: bug in 'axis'?

Posted by [ph le sager](#) on Wed, 29 Jun 2005 08:36:43 GMT

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The AXIS pro does not know where the coordinate [ndim2, ndim2, 0] is if no plot has been made. The PLOT pro set up the coordinate system, and is required (maybe with a /nodata and combination of xyzstyle).

I once noticed that if no plot has been made, the system variable !p.position=[0, 0, 0, 0]. That means that the plotting area is zero until something is plot.

Subject: Re: bug in 'axis'?

Posted by [Michael Wallace](#) on Wed, 29 Jun 2005 14:46:25 GMT

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> I once noticed that if no plot has been made, the system variable
> !p.position=[0, 0, 0, 0]. That means that the plotting area is zero
> until something is plot.
>

You can create a plot with the /NODATA flag and set [XYZ]STYLE to 4 (suppress entire axis). The system variables dependent on the plot call will be set, but no plot or axes will get drawn with the plot command. Hope that helps.

-Mike

Subject: Re: bug in 'axis'?

Posted by [David Fanning](#) on Thu, 30 Jun 2005 06:16:11 GMT

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Grant W. Petty wrote:

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> 'shade_volume', 'polyshade', and 'tvscf' to render and display a 3-D
> array. I am subsequently using 'axis' to add cartesian axes to the
> rendered image.
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- > Everything works fine, PROVIDED that there is a call to 'plot' somewhere
- > before the first call to 'axis'. It doesn't matter what I'm plotting or
- > how things are scaled, but if I comment out the call to plot, the later
- > 'axis' call renders what appears to be an axis of zero length.
- >
- > It's not clear to me why 'axis' should depend on a prior call to 'plot'.
- > Is there a system variable that needs to be initialized before the call
- > to 'axis'? Can I do this without a 'plot' call?

I don't know why this doesn't work, but clearly something is not being set up that should be. I would replace your SCALE3 command with this:

```
SURFACE, DIST(5), /NODATA, /SAVE, XRANGE=[0,63], $  
  YRANGE=[0,63], ZRANGE=[0,depth], XSTYLE=1, $  
  YSTYLE=1, ZSTYLE=1, CHARSIZE=1.5
```

Now you will have a 3D coordinate space and your AXIS command will work appropriately.

Cheers,

David
