

---

Subject: Re: SCALE3.pro isn't doing it's job  
Posted by [David Fanning](#) on Fri, 31 Jul 2009 02:12:46 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Brian Daniel writes:

```
> I'm using the SCALE3 procedure to initialize the !P.T variable for a
> 3D scatter plot with the following commands:
>
> xRange = [min(rot_image[0,*]),max(rot_image[0,*])]
> yRange = [min(rot_image[1,*]),max(rot_image[1,*])]
> zRange = [min(rot_image[2,*]),max(rot_image[2,*])]
> print,'X Range:',xRange
> print,'Y Range:',yRange
> print,'Z Range:',zRange
> Scale3,XRange=xRange,$
> YRange=yRange,$
> ZRange=zRange,$
> Ax=45, Az=80
>
> The problem is when I plot the axes using the "AXIS" command, they
> plot as if their range is zero (little stubby nubs of an axis).
```

The "default" range for the AXIS command is 0 to 1. The AXIS command is not going to get its values from the transformation information set up by Scale3, although it will get its position from there (assuming you use the T3D keyword when you call it). See this article for how to build a 3D scatterplot:

[http://www.dfanning.com/tip\\_examples/scatter3d.pro](http://www.dfanning.com/tip_examples/scatter3d.pro)

You will have to set the [XYZ]Range keywords on your AXIS commands to get the right range for the axes. Here I use the SURFACE command to set up the transformation matrix, but I could have used SCALE3:

```
SURFACE, DIST(5), /NODATA, /SAVE, XRANGE=[0,100], $
  YRANGE=[-50,50], ZRANGE=[0, max(z)], XSTYLE=1, $
  YSTYLE=1, ZSTYLE=1, CHARSIZE=1.5, $
  POSITION=[0.1, 0.1, 0.95, 0.95, 0.1, 0.95], $
  XTICKLEN=1, YTICKLEN=1, XGRIDSTYLE=1, YGRIDSTYLE=1
AXIS, XAXIS=1, /T3D, CHARSIZE=1.5, XRANGE=[0,100]
AXIS, YAXIS=1, /T3D, CHARSIZE=1.5, YRANGE=[-50,50]
```

Cheers,

David

--

David Fanning, Ph.D.  
Fanning Software Consulting, Inc.  
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>  
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

---

---

Subject: Re: SCALE3.pro isn't doing it's job  
Posted by [Brian Daniel](#) on Fri, 31 Jul 2009 12:37:07 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

It worked! But not with Scale3. I tried adding the range keywords to AXIS (and I am using /T3D) but it didn't change my nubby axes. So I used the exact surface command below and adjusted the [XYZ]Range keywords accordingly. I shall choose to Surface over Scale3 from now on. Thanks for your help.

FYI, I just bought your book. It rocks. Seriously rocks, and I'm only on page 102!

On Jul 30, 10:12 pm, David Fanning <n...@dfanning.com> wrote:

```
>  
> SURFACE, DIST(5), /NODATA, /SAVE, XRANGE=[0,100], $  
>   YRANGE=[-50,50], ZRANGE=[0, max(z)], XSTYLE=1, $  
>   YSTYLE=1, ZSTYLE=1, CHARSIZE=1.5, $  
>   POSITION=[0.1, 0.1, 0.95, 0.95, 0.1, 0.95], $  
>   XTICKLEN=1, YTICKLEN=1, XGRIDSTYLE=1, YGRIDSTYLE=1  
> AXIS, XAXIS=1, /T3D, CHARSIZE=1.5, XRANGE=[0,100]  
> AXIS, YAXIS=1, /T3D, CHARSIZE=1.5, YRANGE=[-50,50]  
>  
> Cheers,  
>  
> David  
>  
> --  
> David Fanning, Ph.D.  
> Fanning Software Consulting, Inc.  
> Coyote's Guide to IDL Programming:http://www.dfanning.com/  
> Sepore ma de ni thui. ("Perhaps thou speakest truth.")
```

---