
Subject: Re: tall SURFACE plots don't work?

Posted by [rmw092001](#) on Thu, 18 Apr 2002 03:34:45 GMT

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Hello,

Thanks for the replies. So is there really no method, in direct graphics, to force z-axis length to be larger than x,y-axis lengths? Complex or trial-and-error methods using t3d, xzech / yzech / xzech, SCALE commands, z-graphics buffer etc are OK. :-)

Maybe the simplest method could be: set zstyle=4 then redraw a larger z axis using PLOTS and XYOUTS (no hidden line removal needed in this case). There must be neater method though???

Thanks for any info,

RW

David Fanning <david@dfanning.com> wrote in message
news:<MPG.1725e973691e54c698988d@news.frii.com>...

> RichardW (rmw092001@yahoo.com) writes:

>

>> I need to make a 3-d SURFACE type plot, with the z axis twice the
>> length of the x and y axes (sort of skyscraper shaped). This ought to
>> be extremely simple???

>>

>> Ordinary surface plot, with x,y,z axes the same length:

>>

>> surface,dist(50),position=[.2,.2,.8,.8,.2,.8]

>>

>> Surface plot with a 'squashed' z axis:

>>

>> surface,dist(50),position=[.2,.2,.8,.8,.2,.4]

>>

>> Surface plot with a 'stretched' z axis:

>>

>> surface,dist(50),position=[.4,.4,.6,.6,.1,.9]

>>

>> The 'squashed' z axis works fine, but IDL doesn't allow the last
>> example? - or maybe I haven't understood how POSITION keyword works in
>> 3 dimensions???

>

> This problem is complicated by the fact that the IDL
> Surface command is not a true 3D representation. It's
> more of a 2.5D representation, in that it doesn't allow
> for independent rotation of the three orthogonal axes.
> In fact, the Z axis must always be vertical in the plot.
> I think this is what throws the positioning in the Z

> direction totally out of whack.
>
> This is quite easily done, however, in object graphics.
> So, this morning, I hacked up my FSC_Surface program
> to accept a POSITION keyword to do what you want to do.
> I changed the order of the coordinates, however, to more
> easily accommodate either a 2, 4, or 6-elements vector
> of positions. The order is like this:
>
> Position = [x0, x1, y0, y1, z0, z1]
>
> So, to get your stretched plot, you would type this:
>
> IDL> FSC_Surface, dist(50), Position=[.4, .6, .4, .6, .1, .9]
>
> You can download FSC_Surface here:
>
> http://www.dfanning.com/programs/fsc_surface.pro
>
> You will need a couple of other programs from the Coyote
> Library as well. Read the documentation header to find
> out which ones.
>
> By the way, while I was hacking around, I decided to
> add the ability to zoom into and out of the surface
> plot. You can accomplish this with the RIGHT and MIDDLE
> buttons, respectively.
>
> Cheers,
>
> David
