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

Posted by [David Fanning](#) on Tue, 16 Apr 2002 14:56:09 GMT

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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

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Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

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