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Subject: Re: projecting a PLOT onto wall of SURFACE  
Posted by [Jaco van Gorkom](#) on Mon, 13 Nov 2000 08:00:00 GMT  
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With a little help from the t3d procedure:  
surface, your\_data, /save  
; saves it's transformation matrix to !p.t  
t3d, /yzexch  
; exchanges the y and z axes of the transformation  
plot, your\_subset, /t3d, /noerase, zvalue=1  
; 1 should be the "back wall"

I cannot get the plot axes to overlap exactly with the surface axes, somehow. But I could move it around using the "position" keyword. I personally find the page titled "Three-Dimensional Graphics" in the (5.3) online help rather useful. It comes with an example of how the surface routine uses t3d.

Cheers,  
Jaco

"Andrew" <noymer@my-deja.com> wrote in message  
news:8uobgl\$dt1\$1@nnrp1.deja.com...

> Dear C.I.i-p,  
>  
> I'm using 5.3 Direct Graphics to plot a SURFACE.  
> On this, I superimpose (in a blank region!!) a 2-D PLOT  
> that clarifies one covered-up aspect of the surface.  
>  
> It's a little bit cluttered, but not half as bad  
> as it sounds, and I have a constraint on number of figs  
> I can include with the article.  
>  
> It would look slightly better if I could /T3D the  
> PLOT such that it lies in the XZ plane in the "back" of  
> the surface. Things would just "line up" better visually  
> if I could rotate the supplementary plot. How to do this?  
> Just doing /T3D makes the graph wind up IN the XY plane of  
> the surface, which doesn't work.  
>  
> If this does not make any sense, then another way  
> to explain what I want is to compare it to the CONTOURS lying  
> above or below a SURFACE, which we see in so many examples  
> (e.g. David's book, or "Using IDL"), except that I want  
> the graph to lie in the BACK XZ plane, not the top XY plane,  
> and in addition what I want to plot is not a contour but  
> some other data. In fact all I want is the proper projection  
> matrices to use with /T3d, because I specifically DON'T

> want the graph to take up the entire back panel --- I already  
> have it sized OK I just need to get a way to get the right  
> matrix.  
>  
> TIA,  
> Andrew  
>  
>  
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Subject: Re: projecting a PLOT onto wall of SURACE  
Posted by [Paul van Delst](#) on Mon, 13 Nov 2000 08:00:00 GMT  
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Andrew wrote:

>  
> In article <3A102ABB.EA9C40CD@noaa.gov>,  
> "Pavel A. Romashkin" <pavel.romashkin@noaa.gov> wrote:  
>> "The PLOT\_3DBOX procedure plots a function of two variables (e.g.,  
>>  $Z=f(X, Y)$ ) inside a 3D box. Optionally, the data can be projected onto  
>> the "walls" surrounding the plot area."  
>>  
>> Is this something you can use?  
>  
> I looked into that but its hard to see how it helps. The 2d plot I  
> have is perfectly well-defined, and it is not a projection of a  
> 3d curve.  
>  
> I'm beginning to think this problem is far too obscure to worry  
> about.

Why can't you just overplot the 3-d plot but with one of the data arrays set to a level such that it looks like a separate plot on one of the box sides. I just did it with my own 3-d plotter (which has a specified OPLOT keyword). Took about a minute. I created an unrelated 2-d dataset and just set all the Z-values to 0 (you could do the same for the X- or Y- values depending on which "box-side" you want to plot on. The T3D transformation from the previous 3-d plot is used. In the event that the data ranges of your 2-d plot are outside the existing 3-d curve you have already plotted, then why use the same graph? It would be a confusing overplot.

Anyway.....

paulv

--

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Camp Springs MD 20746

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Subject: Re: projecting a PLOT onto wall of SURACE  
Posted by [noymer](#) on Mon, 13 Nov 2000 08:00:00 GMT  
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"Pavel A. Romashkin" <pavel.romashkin@noaa.gov> wrote:  
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Cheers,  
Andrew

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Posted by [Pavel A. Romashkin](#) on Mon, 13 Nov 2000 08:00:00 GMT  
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"The PLOT\_3DBOX procedure plots a function of two variables (e.g.,  
 $Z=f(X, Y)$ ) inside a 3D box. Optionally, the data can be projected onto  
the "walls" surrounding the plot area."

Is this something you can use?  
Cheers,  
Pavel

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Subject: Re: projecting a PLOT onto wall of SURACE

Posted by [noymer](#) on Tue, 14 Nov 2000 07:14:34 GMT

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In article <8upi7r\$ik5\$1@soap.pipex.net>,  
"Jaco van Gorkom" <gorkom@rijnh.nl> wrote:  
> With a little help from the t3d procedure:  
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> somehow. But I could move it around using the "position" keyword.

Thanks, Jaco.

A slight variation of your suggestion got me on the right track. Turns out that using one of the "side walls" both makes more sense in terms of the data and also reduces clutter. So I use /xzexch or some other exchange. I had guessed that /??exch would come in handy, but I forgot "zvalue=1" so things were mess'd up.

I had another problem, tho. When I used the POSITION command, I got perfect axes but blank or half-blank data, but when I left out the POSITION command, the data were all there, but way too big (i.e. I really needed POSITION without the disappearing act).

Because of the switch to using the side wall instead of the back wall, this problem went away because my scaling needs changed totally. This raised another teeny weenie problem, which will appear on another thread ;-).

Thanks also, Paul. I see your point.

-- Andrew

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