Subject: Re: Multiple surface plotting
Posted by davidf on Wed, 30 May 2001 20:02:41 GMT
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Paul van Delst (paul.vandelst@noaa.gov) writes:

> I want to plot out a number of intersecting surfaces, different colours, some shaded, some gridded.
> After some inquiries, I was lead to Struan Gray's excellent web page and once I figured out how to
> use the Z-buffer, I had great looking plots of exactly what I wanted .... onscreen (or in a web
> page).
>
> When I output to a file using the recommended TVRD() from z-buffer and then tv'ing after a
> set_plot,'PS', or writing the tvrd() result to a png file is a result that looks quite awful when
> printed.
>
> What I would dearly love to do would be to create postscript output directly rather than doing a
> TVRD() of the z-buffer and then tv'ing it to PS output. Does anyone know if this is possible and if
> so, how? All the z-buffer exmaples I've seen use TVRD() and TV for output.

Well, here are two suggestions:

(1) That Z-buffer can be made pretty darn big. Big enough,
probably, so that you could make nice PostScript output.

(2) Do the same thing in object graphics. The object graphics
system *is* a Z-buffer!

Cheers,

David

--
David Fanning, Ph.D.
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Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Multiple surface plotting
Posted by Paul van Delst on Wed, 30 May 2001 21:18:50 GMT
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David Fanning wrote:
>

> Paul van Delst (paul.vandelst@noaa.gov) writes:
>
>> I want to plot out a number of intersecting surfaces, different colours, some shaded, some gridded.
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> probably, so that you could make nice PostScript output.
>
> (2) Do the same thing in object graphics. The object graphics
> system *is* a Z-buffer!

So the answer is effectively no. I figured as much. Nuts.

Regarding the OG solution - the learning curve is too steep for my time allowance for the task. The number crunching part took, oh, about a day. Producing pretty output was secondary and mostly to let the higher ups know I'm earning my pay. Via direct graphics it's taken me about half a day just to produce the eye-candy (the number crunching was easy after futzing about with reading all manner of other people's input files). If OG can produce the pretty pictures in less time, great! Where do I start? :o)

Thanks for the z-buffer size hint....I'll give that a shot thursdee.

paulv

--
Paul van Delst
CIMSS @ NOAA/NCEP
Ph: (301)763-8000 x7274
Fax:(301)763-8545

A little learning is a dangerous thing;
Drink deep, or taste not the Pierian spring;
There shallow draughts intoxicate the brain,
And drinking largely sobers us again.
Alexander Pope.

Subject: Re: Multiple surface plotting
Posted by m.hadfield on Wed, 30 May 2001 22:32:34 GMT
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From: "Paul van Delst" <paul.vandelst@noaa.gov>

> Regarding the OG solution - the learning curve is too steep for my time allowance for the task. The
> number crunching part took, oh, about a day. Producing pretty output was secondary and mostly to let
> the higher ups know I'm earning my pay. Via direct graphics it's taken me about half a day just to
> produce the eye-candy (the number crunching was easy after futzing about with reading all manner of
> other people's input files). If OG can produce the pretty pictures in less time, great! Where do I
> start? :o)

Go to...

http://katipo.niwa.cri.nz/~hadfield/gust/software/idl/

...and get the library, then run mgh_example_surface, which, you will see, is 51 lines long (and most of them are comments or blank). I just added a second surface to the graph for you!

Or you could get David's object graphics surface routine and work out how to add additional surfaces. Shouldn't be too hard.

Mark Hadfield
m.hadfield@niwa.cri.nz http://katipo.niwa.cri.nz/~hadfield
National Institute for Water and Atmospheric Research

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Subject: Re: Multiple surface plotting
Posted by Dick Jackson on Thu, 31 May 2001 15:43:32 GMT
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Hi Paul,

"Paul van Delst" <paul.vandelst@noaa.gov> wrote...

> If OG can produce the pretty pictures in less time, great! Where do I
> start? :o)

Just a few days back (May 25) I wrote a reply on this topic "Re: Object Graphics newbie question", I'll just quote a bit of it here. If you just want to drop some objects in 3-space, find the right view and print (or export to image or VRML), the IDL example program XObjView works very nicely:

Here's an example of how easy XObjView is to use (code example attached to this message as .pro file... hope it works for you):

```
=====
m=obj_new('IDLgrSurface', Dist(30), Color=[255,0,255], Style=2, $
        Shading=1, Name='Wide Magenta Surface')
g=obj_new('IDLgrSurface', Dist(10)*5, Color=[0,255,0], Style=2, $
        Shading=1, Name='Tall Green Surface')
xobjview,[m,g]
=====
```

Cheers,
--
-Dick

Dick Jackson / dick@d-jackson.com
D-Jackson Software Consulting / http://www.d-jackson.com
Calgary, Alberta, Canada / +1-403-242-7398 / Fax: 241-7392

```
begin 666 ex0.pro
M;3UO8FI?;F5W*"=)1$QG<E-U<F9A8V4G+"!$:7-T*#,P*2P@0V]L;W(]6S(U
M-2PP+#(U-5TL(%-T>6QE/3(L("0-"B @(" @(" @("!3:&%D:6YG/3$L($YA
M;64])U=I9&4@36%G96YT82!3=7)F86-E)RD-"F<];V)J7VYE=R@G241,9W)3
M=7)F86-E)RP@1&ES="@Q,"DJ-2P@0V]L;W(]6S L,C4U+#!=+"!3='EL93TR
M+" D#0H@(" @(" @(" @4VAA9&EN9STQ+"!.86UE/2=486QL($=R965N(%-U
@<F9A8V4G*0T*>&]B:G9I97<L6VTL9UT-"@T*96YD#0H`
`
end
```