
Subject: Re: shade_volume

Posted by [davidf](#) on Fri, 30 May 1997 07:00:00 GMT

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Istvan Horvath writes:

```
> I use
>
> shade_volume, float(z), 1.5, v,p, /low
> tv, polyshade(v, p, /t3d)
>
> This works fine. So I got a 3D figure. My question:
> How can I plot x, y and z axes?
```

Here is an example of a program that will render a 3D isosurface with axes. I do it in the Z-buffer. Notice that you don't have to use the command:

```
TV, PolyShade(v, p, /T3D)
```

in the Z-Buffer. PolyShade does the rendering directly. In fact, what is returned from the PolyShade function when it is used in the Z-buffer is an integer!

Regards,

David

PRO Example, data

```
; Get demo data set if necessary.
```

```
IF N_Params() EQ 0 THEN BEGIN
  filename = Filepath(Subdir=['examples','data'], 'head.dat')
  OpenR, lun, filename, /Get_Lun
  data = BytArr(80, 100, 57)
  ReadU, lun, data
  Free_Lun, lun
ENDIF
```

```
; Get data ranges. (Dimensions for simplicity.)
```

```
s = Size(data)
xmax = s(1)
ymax = s(2)
zmax = s(3)
```

```
; Open a window for displaying the data.
```

```
Window, /Free, Title='Volume Rendering with Axes', $
  XSize=400, YSize=400
thisDevice = !D.Name
ncolors = !D.N_Colors

; Do rendering in the Z-Buffer.

Set_Plot, 'Z'
Erase
Device, Set_Resolution=[400,400], Set_Colors=ncolors

; Draw the axes with the SURFACE command. Save T3D.

Surface, Dist(30), /NoData, XRange=[0,xmax], YRange=[0,ymax], $
  ZRange=[0,zmax], /NoErase, /Save

; Render the volume.

Shade_Volume, data, 25, v, p, /Low
image = PolyShade(v, p, /T3D, XSize=400, YSize=400)

; Take a "snapshot" of the display window.

snapshot = TVRD()
Set_Plot, thisDevice

; Display the snapshot in the display window.

TV, snapshot
END
```

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