
Subject: Re: 3D objects & SET_MAP

Posted by [davidf](#) on Tue, 23 Jun 1998 07:00:00 GMT

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Boris V. Khattatov (boris@ucar.edu) writes:

- > Does anyone know a way to display 3-D objects
- > on a map projection?
- >
- > It's easy to display a 2-D field in lat & lon using
- > TV and MAP_IMAGE, but how can I display a
- > 3-D object in lat, lon, and z in map coordinates?

I offer this code totally (and I hope uncharacteristically)
without comment. :-)

Cheers,

David

PRO Example

; Create a sphere.

```
SPHERE = FLTARR(20, 20, 20)
FOR X=0,19 DO FOR Y=0,19 DO FOR Z=0,19 DO $
  SPHERE(X, Y, Z) = SQRT((X-10)^2 + (Y-10)^2 + (Z-10)^2)
SHADE_VOLUME, SPHERE, 8, V1, P1
```

; Render in the Z-graphics buffer

```
thisDevice = !D.Name
Set_Plot, 'Z'
Device, Set_Resolution=[500,500]
Plot, Findgen(40) ; Don't remove this line! :-)
Erase
```

; Set !P.T Transformation matrix.

```
Scale3, X RANGE=[-10,30], Y RANGE=[-10,30], Z RANGE=[-10,30]
```

; Render sphere in red colors.

```
LoadCT,3, NColors=100
Set_Shading, Values=[0,99]
image = POLYSHADE(V1, P1, /T3D)
```

; Display the map_projection.

```
Map_Set, /Cylindrical, /Grid, /Continents, $  
/NoErase, /T3D, ZValue=10, /NoBorder, $  
Position=[0,0,1,1]
```

```
PlotS, [0,1,1,0,0], [0,0,1,1,0], $  
[0.5,0.5,0.5,0.5,0.5], /T3D, /Normal
```

; Take a snapshot of the Z-buffer.

```
snap = TVRD()
```

; Trim it up.

```
snap = snap(50:449, 50:449)
```

; Display the snapshot on the display.

```
Set_Plot, thisDevice  
Window, XSize=400, YSize=400  
TV, snap  
END
```

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