
Subject: Cannot put an image back to the origin after rotating with T3D.

Posted by [joe](#) on Thu, 28 Apr 2005 22:22:39 GMT

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Hello guys,

I created a torus with IDL but cannot put it back to the origin.

I don't really understand how t3d works with "rotation" and "translation".

Everytime I rotate, the image seems to move from its original location.

Here is the code.

thanks in advance,

joe

```
pro torus_test, ri, ro, verts, polys, ndata=ndata
```

```
if ( not keyword_set(ndata) ) then ndata=80
```

```
nro=ndata & nri=nro/2 ; use ndata segments for bigger circle and  
; use 1/2 number of segments for
```

```
smaller  
circle.
```

```
theta = 2.0*!PI*findgen(nro)/nro
```

```
phi = 2.0*!PI*findgen(nri)/nri
```

```
vx = fltarr(nro*nri)
```

```
vy = fltarr(nro*nri)
```

```
vz = fltarr(nro*nri)
```

```
polys = intarr(4,2*nro*nri)
```

```
np=0
```

```
for i=0,nro-1 do begin ; outer circle
```

```
    i1 = (i + 1) mod nro ; Polygon between segments (i,i1)
```

```
    cx = cos(theta[i])*ro
```

```
    cy = sin(theta[i])*ro
```

```
    for j=0,nri-1 do begin ; inner circle
```

```
        j1 = (j+1) mod nri ; Polygon between segments
```

```
(j,j1)
```

```
        rr = cos(phi[j])*ri ; Radius of minor circle
```

```

vx[i*nri+j] = rr*cos(theta[i]) + cx
vy[i*nri+j] = rr*sin(theta[i]) + cy
vz[i*nri+j] = ri*sin(phi[j])

```

```

        polys[0,np] = [3, i*nri+j, i1*nri+j,
i1*nri+j1]
        polys[0,np+1] = [3, i*nri+j, i1*nri+j1,
i*nri+j1 ]
        np = np + 2
    endfor
endfor
verts=[[reform(vx)],[reform(vy )],[reform(vz)]]
verts=transpose(verts)
return
end

```

```

t3d,/reset
verts=0
polys=0
torus_test,9,12,verts,polys
t3d,trans=[1.5,-0.5,-0.5]

```

```

t3d,ro=[5,-15,0]
verts=vert_t3d(verts)
print,!P.T
vmin = fltarr(3) & vmax = vmin ;get min & max of each coordinate.
for i=0,2 do begin
    v = verts[i,*]
    vmin[i] = min(v)
    vmax[i] = max(v)
endfor
!x.s = [-vmin[0],.9]/(vmax[0]-vmin[0])/1.3 ;Set up data scaling to
normalized
;                                coordswhich is the cube
[0,1],[0,1],[0,1]
!y.s = [-vmin[1],.9]/(vmax[1]-vmin[1])/1.3
!z.s = [-vmin[2],.9]/(vmax[2]-vmin[2])/2.8
surfr,ax=8 ;view from 45 degree orientation
erase
print, !P.T
; Monochrome?
if !d.n_colors le 2 then top = 255 else top = !d.n_colors -1 < 255
b = polyshade(verts,polys,/t3d,/da ta, xsize=512,ysize=512, top=top)
tv,b

```

end
