
Subject: Re: ellipsoid 3D

Posted by [Rick Towler](#) on Thu, 03 Aug 2006 19:11:46 GMT

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You didn't say if you wanted to do this in Direct Graphics (DG) or Object Graphics (OG). You also don't give any details so I can't suggest one over the other. Given that:

For either OG or DG you need to create a set of points that define the ellipsoid (the vertices) and an array that specifies how the points are connected (the polygon connectivity array). Then you pass these data to the appropriate function to "plot" your 3d ellipsoid.

You could do this the hard way, by creating a function that would calculate the vertices and create the connectivity array give your major and minor axes and a position. Or you could do it the easy way :)

IDL has the 'orb' object which creates a 3d sphere. Assuming you want to do this using OG, it is as simple as creating the sphere and scaling it asymmetrically.

```
; create the orb object
IDL> orb = obj_new('orb', color=[240,0,0], style=1)

; since it is a subclass of IDLgrModel we can scale it.
; stretch the sphere out 2x it's original length along the z axis
IDL> orb -> scale, 1, 1, 2

; view the result
IDL> xobjview, orb
```

If you need to do this in DG, you can still use the orb object:

```
; get the vertices, polygon connectivity, and transform matrix
; from the orb object. Even though you are looking at an ellipsoid
; the verts will still define a sphere. The orb's transform matrix
; holds the key to scaling the vertices such that they define an
; ellipsoid.
IDL> orb -> getproperty, data=verts, polygons=polys, transform=xform

; apply the transform matrix to the spherical verts to make them
; ellipsoidal
IDL> dgVerts = vert_t3d(verts, matrix=xform)

; display using DG
IDL> scale3, xrange=[-2,2], yrange=[-2,2], zrange=[-2,2]
IDL> image=polyshade(dgVerts, polys, /t3d)
```

IDL> tv, image

I am aware that this DG code displays a "solid" sphere. I never do 3d in DG so this is the best I care to do. Others might offer tips for displaying 3d objects in DG if you really want to suffer thru this in DG.

HTH!

-Rick

adisn123@yahoo.com wrote:

> Hi,
>
> I'm a begginer in IDL image processing, so if someone lends me some
> help, that'd be great.
>
> I'm trying to make an ellipsoid in 3D.
>
> Not solid, but hollow ellipsoidal in 3D.
>
> Anybody help?
>
